American Aviation

MARCH 19, 1951 35c

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AVIATION MAGAZINE

Control By Commerce

BY MEANS of his mobilization powers the President has issued an executive order of vast importance to the air transport industry and to civil aviation in general.

There is now a concentration of administrative power over aviation in the Department of Commerce on a scale never experienced before.

In a national emergency such powers are taken for granted. If a czar is needed we can think of no more capable administrator than Delos W. Rentzel, who is slated to be the new Under Secretary of Commerce with broad policy authority over all forms of transportation.

But where do we go from here? Is the five-man quasi-judicial CAB to be liquidated completely or merely kept as an ornament? Is this a further step toward bringing all transportation under one agency permanently according to long-discussed plans? One may well ask, because most emergency actions in Washington seem to become permanent and we've been in one kind of "emergency" after another for almost twenty years.

The current switch is most unfortunate for the air transport industry. There have been three changes in the five-man Board since January 1. One new member who started to work March 1 found himself No. 3 in seniority the day he stepped into his office. It is ludicrous to think that there can be any firm, sound, long-range development of an airline system under such conditions. One disruption has followed another.

Congress created the CAB and the CAA in 1938 as independent and responsible to the legislative branch of the government. Starting in 1940 there has been a series of executive orders by first President Roosevelt and then President Truman which have moved the agencies step by step into the executive framework of government. This is not serious for CAA—but it is serious for a sound air transport industry that needs regulation and supervision independent of low-grade county seat political pressures.

The basic fear is not what will happen under Del Rentzel, but what happens when he moves on. A great many new government setups have been launched with A-1 talent only to have this talent superseded or replaced by political hacks of the

(Turn to Page 6)

Manages Philippine Air Lines

Edward T. Bolton, executive vice president of Philippine Air Lines, who has guided the airline from a small island-hopping service into an international carrier stretching two-thirds of the way around the globe. Former TWA operations manager for Europe, his headquarters are now in Manila. In 1950 PAL moved from red into black ink, is 9th largest in world in terms of route mileage. (See Page 14.)

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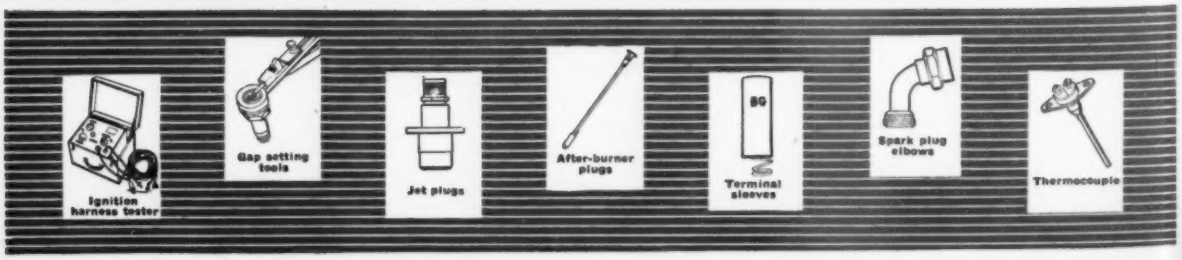

American Aviation

THE INDUSTRY'S FIRST NEWS MAGAZINE

NEWS SECTION

Volume 14 Number 35

March 19, 1951

a LOOK at the WEEK

Industry and government officials are outspoken in criticism of confusion and delay in National Production Authority on aviation matters. Air Coordinating Committee was reported to have submitted request for priority on an airline plane order, and it was kicked around between NPA offices, with no one willing to assume authority. Officials still say answer is a full-fledged NPA aircraft division.

•

Manufacturers and airlines aren't happy about government's action in allowing all types of businesses to use DO-97 priority to obtain maintenance, repair and operating supplies. Suppliers will be so glutted with DO's that the priority won't mean much, they say.

•

CAB is in most depleted condition in years. Rentzel is leaving as chairman, Chan Gurney is just assuming duties as Harold Jones' successor, Joseph Adams has only been on the job a few weeks. Oswald Ryan and Josh Lee are only members with any experience.

•

There's said to be growing feeling among airline pilots that David L. Behncke, president of Air Line Pilots Association, should assume "elder statesman" role and leave union management to younger men. Opinion is that expanded scope of ALPA activities makes management revisions necessary.

•

Airline traffic continues at high levels. A number of companies are expecting first-quarter profits, some for the first time in their histories.

•

Airlines are still considering advisability of eliminating or raising some promotional fares. In absence of adequate government controls, costs are rising, and more revenue may be needed to keep up with them.

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Consolidated Vultee is said to have been assigned project of developing plane to be powered by first atomic engine. General Electric is working on the powerplant.

•

CAA will soon issue its projected airport program for next three years. Document will outline estimated requirements for new fields and improvements to existing airports, with estimated costs. It'll be used as basis for budget requests for airport funds.

202 Report Affects All Transports

Extensive and expensive changes in all airline transport planes will be required if CAA accepts as final the report of its board which has drafted recommended modifications in the Martin 202.

It is estimated that the changes will cost about $15,000 per Martin plane. What they might be for a DC-6, Constellation or Stratocruiser is not known.

NWA Grounding: Meanwhile, Northwest Airlines said that it was voluntarily removing its 20 Martins from service on Mar. 17 to make the modifications. Actually, CAA's board found no basic shortcomings in the 202 design which might have contributed to NWA's Martin losses, and did not recommend a withdrawal from service.

NWA, however, had been faced with an ultimatum from its pilots that they would not fly the planes after Mar. 17. The grounding will result in about 80 NWA pilots being laid off, with others shifted to DC-4's which the company will use along with its Stratocruisers. Some NWA DC-4's will be recalled from the Korean airlift.

Changes Listed: Regarding the Martin, CAA board's "A" (top priority) list contained only one minor change relating to structure, and this was not an item affecting the integrity of the structure. Regarding all transports, here are some of the recommendations:

Use of oil quantity gauges on all planes.

Fire detection and extinguishing systems in main electrical system junction box.

Sealing the cargo compartment to minimize air flow through that area.

Installation of emergency air brake bottle.

Reworking inner windshield to permit easy removal for de-fogging purposes.

Segregation of engine fire warning signals resulting from Fenwall and Edison type fire detectors.

Replace dural fuel cross feed lines with fire resistant lines.

Install explosion-proof motor in emergency hydraulic pump.

Heater fuel lines to be shrouded and vented overboard.

$2 Million Asked for 4 Plane Tests

A $2 million appropriation will be asked by CAA's prototype aircraft advisory committee to finance operational tests of the North American B-45 jet bomber, Convair Turboliner, Chase C-122, and one large transport type helicopter, it is learned. Legislation passed by last Congress authorized $12.5 million for testing.

The Turboliner will be used to gain information on performance of propeller turbines for future cargo aircraft, the Chase C-122 to evaluate practical aspects of a high-wing, low floor level cargo plane and feeder type aircraft, and the B-45 to provide operational experience with jet-powered transports.

DPA Sets Up Program, Requirements Office

An Office of Program and Requirements, which will be responsible for determining basic policies and programs for allocation and utilization of resources required to meet military, civil and foreign needs, has been established by Defense Production Administration.

Director of the important office is Charles E. Wampler, on leave from American Telephone & Telegraph Co., who will have under him a planning staff, transportation division, manpower division, program requirements staff,

material and products division, plus divisions on military, civil and foreign requirements.

Following are the office's functions:

Analysis of overall data on requirements and resources.

Program evaluation and the authorization of programs to meet defense needs as well as essential civil requirements.

Allocation of resources to support approved programs.

Identification of deficiencies in supplies of materials and other resources and recommendation of programs for more efficient utilization of available resources and for expansion of resources.

Harvard Studies U. S. Air Policy

An important review of U. S. international air policy in the present national emergency is to be undertaken by the Mobilization Analysis Center of Harvard Business School, under contract with the Department of Commerce.

Although announcement didn't mention the fact that trans-Atlantic airline certificates are up for renewal next year, the study is expected to have a considerable bearing on the case.

Prof. Paul W. Cherington, of the school's staff, will conduct the study. He was former executive assistant to the CAB chairman, once worked for Pan American World Airways, and was with Air Transport Command during World War II.

A panel of five advisors to the survey was appointed by Harvard:

George A. Brownell, partner in law firm of Davis, Polk, Wardwell, Sunderland and Kiendl, of New York; first secretary of Air Coordinating Committee, and negotiator of several bilateral civil aviation agreements.

William A. M. Burden, New York investment banker and former Assistant Secretary of Commerce for Aviation.

John C. Cooper, of Institute for Advanced Study, Princeton, N. J., former PAA vice president, advisor to several U. S. delegations to international aviation conferences.

Harold A. Jones, who resigned recently as a CAB member, and who was active in international matters while with the Board.

L. Welch Pogue, of Washington law firm of Pogue & Neal, and former CAB chairman, also active in international matters.

Rentzel Heads ODM Transport Group

D. W. Rentzel, CAB chairman, has been named chairman of a special Office of Defense Mobilization advisory committee to coordinate use of all transportation and storage facilities in the defense program. The group will advise and assist Defense Mobilizer C. E. Wilson in making sure that the most effective use is obtained of all land, sea and air transport, and port and storage facilities. Assignment is expected to dovetail with Rentzel's official duties when he becomes Undersecretary of Commerce for Transportation (News Issue, Mar. 12).

MANUFACTURERS

Ford Order Increased: Ford Motor Co.'s Air Force order for Pratt & Whitney R-4360 engines, to be built under license, has been increased to $565,000,000, about 10 times the original contract value.

Big Helicopter Order: Navy has placed an additional large order with Piasecki Helicopter Corp. for HUP-1 helicopters, nearly doubling previous orders for the craft, and pushing company's backlog to about $100,000,000. The new helicopters will be modified, as compared with original ships, to include more powerful engines. Piasecki is proceeding with plans to double plant area at Morton, Pa., and expects to employ about 4,000 workers in military helicopter production by early 1952.

P5M-1 Order: Navy has placed its fourth production order for the Martin P5M-1 Marlin anti-submarine seaplane. Delivery schedule on new contract calls for doubling the previously planned rate of production. Marlin is powered by two Wright 3350 Turbo Cyclone engines and is manned by crew of seven.

1950 Propeller Shipments: A total of $64,191,000 worth of propellers and parts were shipped by propeller manufacturers during 1950, an 11% increase over 1949, according to joint report of CAA and Bureau of the Census. About 82% of 1950 shipments went to military customers. Employment in propeller plants reached peak of 9,489 in December, 1950, a 13% increase over same 1949 month.

Loan for Marine: A $200,000 Reconstruction Finance Corp. loan has been authorized by National Production Authority for Marine Aircraft Corp., Ft. Worth, Tex., to help company get into production on Navy contract for auxiliary fuel tanks for aircraft.

People: **Charles J. Gallant,** who has been assistant to the president of North American Aviation, has been elected a vice president of the company. He was named general manager of NAA's Columbus, O., plant . . . **Albert G. Handschumacher,** who has been with Lear Inc. since 1945, has been elected vice president and will assume duties as assistant general manager of the Grand Rapids, Mich., plant . . . **Dr. Richard Rush** has resigned as aircraft division director for National Security Resources Board and has been appointed assistant to **Max Balfour,** president of Spartan Aircraft Co., Tulsa, Okla. . . . **I. M. Laddon,** who has been with Consolidated Vultee Aircraft Corp. for 21 years, has been elected chairman of the executive committee of company's board of directors.

Expansion

Minneapolis-Honeywell Regulator Co. is building a $1,500,000 plant to house aeronautical products production including automatic pilots, electronic fuel gauge systems and gyroscopes.

Aviation Engineering Corp., makers of capacitance type fuel gauges and other aircraft instruments, has moved from Ozone Park, N. Y. to expanded facilities at 34-56 58th St., Woodside, L. I., N. Y.

Sikorsky Aircraft Division of United Aircraft Corp. plans to increase helicopter plant facilities by one-third to 500,000 sq. ft. Facilities will be devoted to production of 10-place S-55 and four-place S-52. Within a year employment will increase from 1,300 to 2,500.

Lockheed Aircraft Corp. this month will start construction of a $400,000 hangar at Palmdale Airport, to serve as a delivery station for jet planes. Occupancy is scheduled for mid-October.

Hughes Tool Co. has bought 160-acre tract of land as one of first steps in acquiring property for guided missiles plant to be built south of Tucson, Ariz.

PLANES & EQUIPMENT

Helicopter Autopilot: An automatic pilot designed for helicopters and using standard Eclipse-Pioneer components for the Sikorsky HO4S-1 helicopter, has been developed by Aeronautical Instrument Laboratory of Naval Air Experimental Station, Philadelphia. Unit is a three-component autopilot operated by five gyroscopes.

Plane Designation: Air Force's YC-129 version of Douglas Super DC-3, has been redesignated the YC-47F.

Certification Trouble: The first Douglas DC-6B delivered to United Air Lines a few weeks ago was not fully certificated because CAA maintains that stall requirements of the Civil Air Regulations have not been met. It is understood that meeting the stall requirement would entail use of spoilers but that both Douglas and the airlines that have ordered DC-6B's are against this. Use of spoilers introduces other wing characteristics which Douglas feels are more critical than the "arbitrary" stall requirement. At last report, the discussions were still deadlocked.

(Continued opposite page 66)

Tough bomber on the torture rack

Dotted line on this composite photo shows the up and down extremes of deflection to which the Stratojet wing was subjected under tremendous test loads.

The elements will never give an airplane as severe a beating as Boeing engineers deliberately inflicted on this B-47 Stratojet bomber.

They wanted to learn whether the swept-wing, 600-mile-an-hour Stratojet was as tough as Boeing designers said it was. They found out.

In 90 separate tests, on the most complicated apparatus ever built for such purposes, they pulled, compressed, twisted and strained at the Stratojet's parts – the wing, landing gear, fuselage, control surfaces and other structures. In one test alone, the wing survived what amounted to a gross load of 555,000 pounds!

No punches were pulled. Every structure was tested right up to the ultimate strength required by Boeing's structural design policy and the standards of the Air Force.

Tests like these—in which the airplane is given punishment far beyond anything it will experience under operational conditions – have been applied to all new Boeing airplanes – the B-17, B-29, B-50, Stratocruiser, Stratofreighter, etc. They assure the wide margins of safety, stamina and dependability which the U. S. Air Force and the public have come to expect of Boeing-built planes.

BOEING

Among Boeing's facilities for research and development are Acoustical, Aerodynamic, Armament, Electrical, Electronic, Flight Test, Hydraulic, Mechanical Equipment, Metallurgical, Physical Research, Propulsion, and Structural Test Laboratories, and the great Boeing Wind Tunnel.

American Aviation

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other publications

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Down but not out! U.S. Navy jet fighter pilot (inset) is dazed as he floats in the icy waters off Korea after crash landing near the carrier LEYTE. Moments later, the carrier's Sikorsky helicopter plucked him from the sea and deposited him on the carrier's flight deck—damp and shaken, but otherwise unhurt. Sikorsky has pioneered in air-sea rescue work since 1947, and developed the technique of using power hoists to bring "ditched" pilots aboard. Today, more efficient than destroyers as plane guards, Sikorsky helicopters are based on all the flattops of the fleet. Destroyers are thereby released for other duties. Through January 15, more than fifty Navy carrier pilots had been rescued by these "life guards of the air."

This is another of many military uses being found for these rugged Sikorsky helicopters. The versatile performance of this dependable craft points to an even greater military potential, as well as countless civilian uses.

SIKORSKY AIRCRAFT

BRIDGEPORT, CONNECTICUT

ONE OF THE FOUR DIVISIONS OF UNITED AIRCRAFT CORPORATION

EDITORIAL

CONTINUED FROM PAGE ONE

worst sort. In a Washington rife with fixers and intrigues and who-do-you-know and it'll-cost-you-your-job-if-you-don't-go-along, aviation has been more free than some other agencies. Back-scratching and pocket-padding have taken precedence over the interest of the nation all too frequently in Washington in recent years.

Gone are the dreams of the drafters of the 1938 legislation that there should be an independent five-man board reasonably free of political obligations and sufficiently devoted to the long-range development of an air transport industry in the public interest. The Civil Aeronautics Act of 1938 was excellent, as everybody has said since that date, but the appointments to the Board have been poor more often than not. Decisions have been expedited compromises or compromises based chiefly on who's going to get hurt least and how many can we please the most.

The actual executive order of Feb. 28 is based strictly on national defense mobilization, but the ramifications of the move are much broader. It is very unlikely that a five-man board can any longer act independently of the executive branch of government—and indeed the Board has been tending in that direction for some years. Simply stated, the effect of the trend of the past few years has been to move the air transport industry out of a court into an executive office. Some will say that the court never was able to function, as such, and this is true to a fairly large extent.

Only time will tell whether the move is beneficial. Just as dictatorships can be benevolent as well as tyrannical, the new concentration of power in the executive branch of government can be both good and bad. The chief difficulty is that the good can so often become bad very quickly.

They've Worked Hard

ONE REASON why civil aviation has gone ahead as it has is because there are always a handful of people devoted to the cause who are willing to sacrifice a great deal of their personal time to get things done. Often this work isn't appreciated by all of those who benefit by it.

Take the various task forces who are making up reports for the air transport mobilization survey of the National Security Resources Board. This has been hard going. A great deal of time has been involved. Yet these reports are destined to make things easier for civil aviation in time of emergency.

Four men in particular deserve personal tribute. Max Balfour of Spartan Aircraft Co., Tulsa, is completing his report on overhaul and maintenance. George Haddaway, editor of *Flight*, has had industrial, business and agricultural flying. Bevo Howard of Hawthorne Flying Service has had training. A. B. Curry, director of Miami International Airport, has had airports. The other two task forces —air transport and airways—were headed by men who live in Washington but who also were burdened for time, Milt Arnold of the Air Transport Association and Gordon A. O'Reilly of Aeronautical Radio.

Somebody has to devote personal time to these matters, else they never get done. To those who have come to Washington and sweated out the task forces reports, aviation owes a resounding thanks.

Good Move

THE Secretary of Commerce has contracted with the Harvard Business School for a study and review of U. S. international air policy. A panel of able citizens—George Brownell, John C. Cooper, William A. M. Burden, Harold Jones and L. Welch Pogue—have been named advisors. This is a sound move especially in view of the fact that some important international air carrier certificates come up for renewal in 1952.

The only surprise in the announcement is that a preliminary report is to be submitted to the Secretary of Commerce in 90 days. This seems scarcely enough time to get started on an over-all review as important as this. We hope no hasty job will be performed. In general it is a sound idea to have an outside agency, aided by capable advisors, to help the CAB and the government in this manner. At the present time the CAB is incapable of doing an adequate job by itself in guiding U. S. international air policy.

Races—Why Not?

ALTHOUGH Cleveland is definitely out as a site for the National Air Races this year, the outlook is not as dark as had been assumed earlier. Both the Air Force and Navy are warming up to participation providing we aren't in an all-out war. Various cities are under consideration.

The British will hold two major air events this year. Why not have a good display in the U. S.? The annual racing classic has become a good display of military aircraft for the people who paid for them. The racing itself has become less important with each year. We hope National Air Races finds a suitable location and that world events make it possible for the Air Force and Navy to participate.

Who Buys the Dinner?

INTERCHANGE has swept the airline field so rapidly in the past year that the captain will no longer have to tell his passengers over the cabin loudspeaker that "We are now over Cincinnati and will reach Ruxton's Corners in approximately eight minutes."

He'll be saying something like this: "This is your Southeast Airlines captain speaking. This portion of your trip is courtesy of Ajax Airlines. In approximately 15 minutes we will be on the routes of Intercontinental Airlines. The Allegheny Airlines portion of our route is overcast. We will reach our destination on time courtesy of Northern Express Airways."

WAYNE W. PARRISH

The tail-less plane has a tail!

That is, it has all of a tail's good dynamic qualities, without as much "drag" as is normally inherent in an actual tail.

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It's all a question of *automatic control*. So Northrop chose a Honeywell Autopilot with the Honeywell rate gyro as the sensing part of the system; had us adapt them to the needs of the Flying Wing.

We do special jobs like that almost every day. We expect to keep on doing them for many years to come—because automatic *control* is such an all-important part of aviation progress. And *automatic control* is Honeywell's business.

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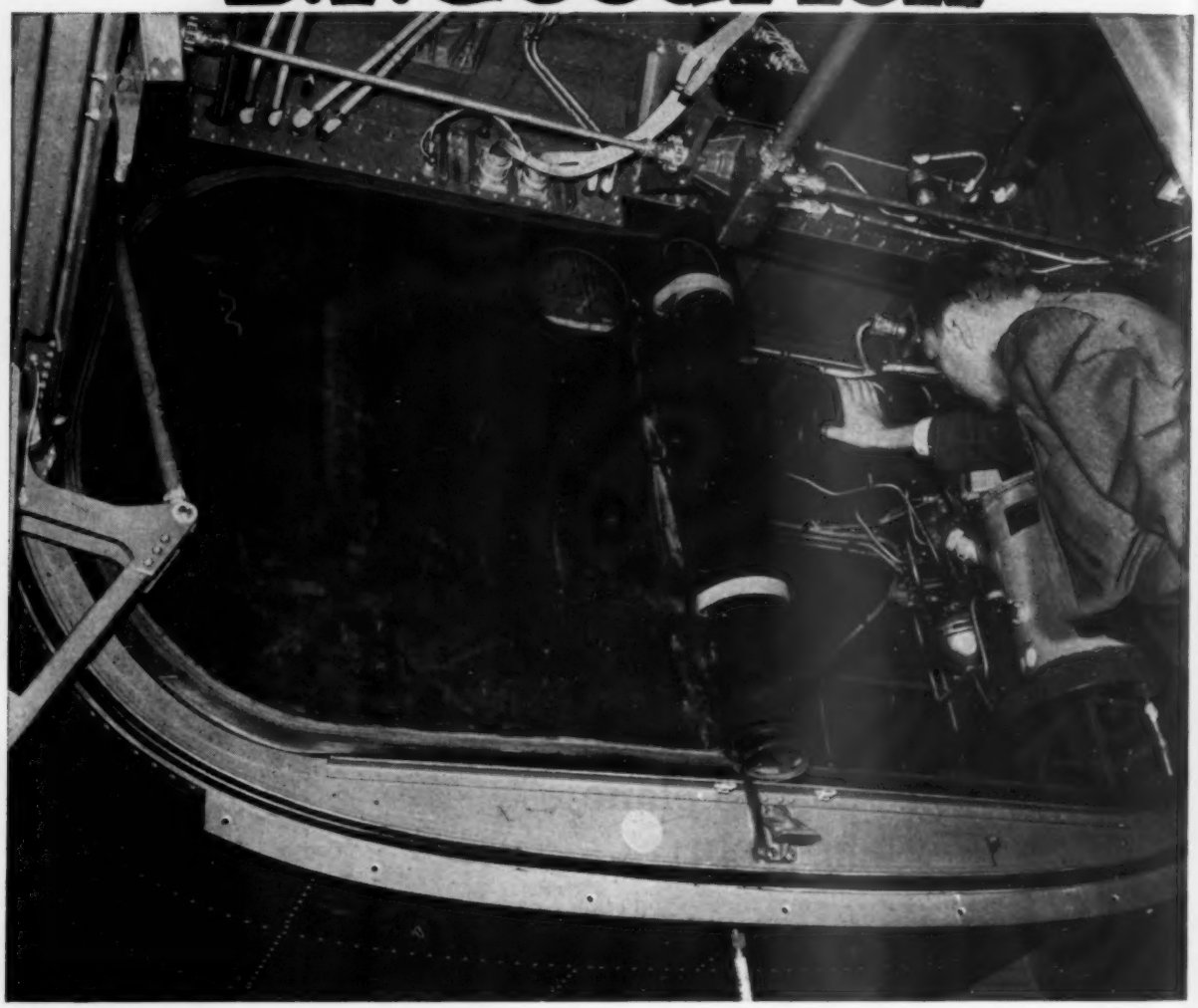

How to keep fumes from bothering a plane's nose

ENGINEERS at Lockheed were faced with a tough sealing problem. Gasoline fumes from the Neptune's bomb bay fuel tanks had to be kept completely away from equipment in the forward compartment. But the bomb bay couldn't be walled off. A ready entrance between the two compartments was needed.

Lockheed wondered if rubber might do the trick. They called in B. F. Goodrich. BFG engineers built a mammoth curtain to cover the entire width of the lower fuselage—made of fire-resistant fabric, coated with fume-resistant rubber. They made the curtain airtight—yet completely removable—by running a pressure sealing zipper all the way around the edge.

This B. F. Goodrich-developed zipper has overlapping molded rubber lips. They provide a 100% seal against fumes. And they make it possible to open the fume curtain in no time at all.

B. F. Goodrich fume curtains are now standard equipment on the Neptune.

Besides fume curtain applications, BFG pressure sealing zippers are used for airplane doors, air ducts, inverter covers, control surface seals. They are extremely flexible. They fit snugly around complex shapes—such as squares, kidneys and the like where clamps won't seal. They are available in light-duty and heavy-duty sizes. They cement right onto either fabric or metal. They save space and weight.

If you have a sealing problem—or any other problem that BFG engineering might solve—get in touch with *The B. F. Goodrich Company, Aeronautical Division, Akron, Ohio.*

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FIRST IN RUBBER

ESTABLISHED JUNE 1, 1937

American Aviation

VOLUME 14 NUMBER 35

Airlines Head for Record Traffic Year

. . . but, with plane fleets reduced and personnel situation tight, meeting the demand will be a battle.

By WILLIAM D. PERREAULT

WHILE the demands of the military services on the aviation industry have been dominating the news, the scheduled airlines have passed through a most unusual period: for the first time in the memory of industry people, airline traffic failed to take its traditional and devastating winter plunge.

The winter months were marked by individual company records and general improvements indicating the true nature of the trend which had much to do with record 1950 earnings and which has started the airlines off on what should be an all-time record year. Some of these trends were:

• **In November alone** domestic trunkline passenger revenues were up over $6 million over those of November, 1949, and international air carrier revenue was up $1.3 million. Even local service airlines showed a 62% increase in revenue passenger miles in November, 1950, over the same month in 1949.

• **Average passenger** load factor in November for the U. S. international operators was 53% as compared with 48% in 1949.

• **In 21 instances,** combinations of different airlines and equipment, aircraft utilization was up substantially in December, 1950, over the same period in 1949.

• **The pattern** of winter lay-offs among airline pilots, mechanics and clerical employes (see p. 10) was not only stopped but in several prominent instances it was reversed and there were winter hirings.

• **The 16 domestic** trunks had a 1950 net operating income estimated by ATA to be up 107% to $51,039,244 as compared with $24,625,337 in 1949. Total passenger miles were up 16.7% among U. S. international and domestic airlines, mail ton miles were up 11.6% and cargo services up 19.7% in the same period.

• **Air express** shipments on the certificated airlines set an all-time record of 418,256 in January for a gross revenue of $2,621,710, also an all-time record in the Railway Express Agency's 23-year history. Shipments were up 32.1% over the same period last year and revenues up 69.4%.

• **At New York's** three air terminals passenger traffic was up 62.9% in January, 1951, over the same month a year ago. Overseas passenger traffic was up 40.9%.

• **In January,** American Airlines reported a passenger load factor of 72.5% as against 71.3% in July and 56.8% in January of last year. American made a "nice" profit in January in what AA President C. R. Smith termed the "first (January) profit I ever remember."

• **National Airlines'** revenue passenger miles were up 76% in the first half of January over the comparable period in 1949, revenues were up more than 72% and seat miles up 47%.

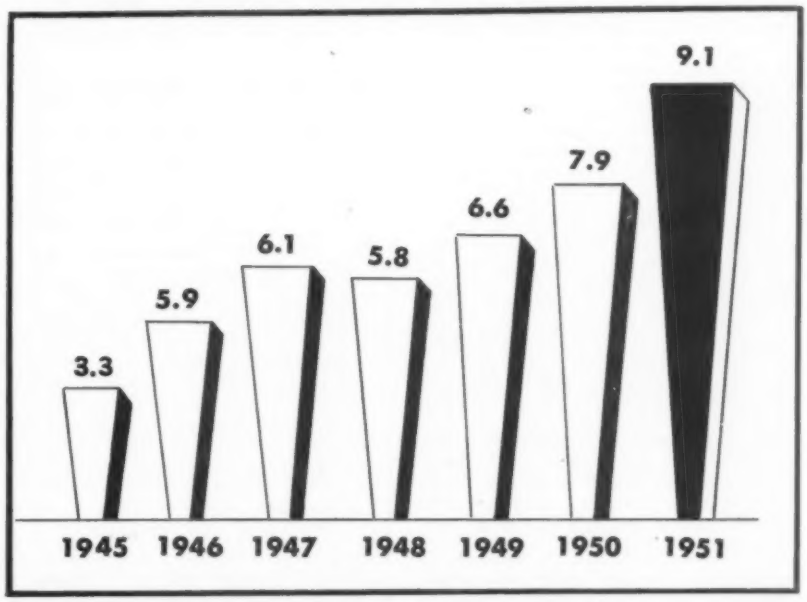
There are many more examples but these indicate the trend which extended through the industry—domestic trunklines, feeders and international carriers. Based on the year to date, and barring all-out war, airline officials predict that domestic airlines will reach the 9,100,000,000-passenger-mile level during 1951. To appreciate this figure it should be realized that in 1950 (see chart) the same lines operated only 7,932,532,000 passenger-miles and that this volume is three times the level attained in 1945.

These same sources predict the year 1951 will see the 1949 total of 1,699,046,000 passenger-miles made by the U. S. international airlines topped by some 10%.

No Winter Drop

The simple fact is that traffic did not drop off appreciably during the winter months as compared with previous years. Now airline officials foresee the traditional upswing, over the basic winter travel levels, during the coming months in both domestic and international airline op-

Experts Say Traffic Will Hit This Peak



(Figures represent billions of passenger-miles)

erations. The big question is this: Will the airlines be able to shoulder the loads and meet the demand?

There is no doubt, the experts feel, that the demand will be met. It has to be met if the airlines are to solidify the place now being made by them as a vital link in any defense program. It is the extent of their participation in this military program, both directly and indirectly, that will make the task of meeting civil needs a trying one.

Contribution Air Lift

Planes and personnel are the key factors. At the start of World War II the Army's Air Transport Command took all but 158 of the airlines 453 transports. Soon after the Korean hostilities broke out in late June the Military Air Transport Service chartered about 66 civil transports including most of the cargo-type Douglas DC-4's and some of the newer equipment operated by the domestic scheduled airlines.

Today the domestic airlines' contribution in daily air lift to the Pacific USAF operation is just about equal to the air lift supplied during those critical days in early World War II.

These planes were first chartered to the military in early July. Actually, peak airline passenger traffic in 1950 came in June, as it did in 1949. While these planes were missed, better scheduling and increased utilization of remaining planes contributed substantially to airline profits in 1950.

Cargo Pinch Hurts

Many of the DC-4's in the Pacific operation were ships used in the cargo fleets of passenger airlines. By December, traditional peak month for cargo operations, the domestic airlines felt the pinch for cargo equipment. The 10-million-plus freight ton-miles in December were limited to that level by lack of equipment. Since none of the lines have all-cargo aircraft on order and there is no sign of the military needs letting up, this monthly figure is nearly tops for the domestic lines.

This concerns air cargo officials because the industry's demand for air freight service is growing with the defense business. Air freight which might otherwise be used to fill out passenger loads is being displaced by high passenger load factors and the rapidly expanding air express requirements which take priority over regular freight.

By the time peak summer passenger levels are reached this year a considerable number of new aircraft will be available to offset the plane losses to charter work and the growing traffic demand.

Between the first of December, 1950, and June 1 this year 17 Douglas DC-6's are scheduled for delivery to the domestic airlines. Another 10 Lockheed Constellations are scheduled for delivery and five Martin 4-0-4's. If the season peak is a little later in the year more aircraft will be available as deliveries will be frequent this summer, assuming production schedules are maintained. In June alone there are three Connies, three DC-6's and five Martin 4-0-4's scheduled for delivery to these lines.

New Planes Should Help

Providing delivery dates are met the equipment should arrive fairly well in step with the increasing traffic demand. It is still questionable that these schedules will be met and in one major instance deliveries have already fallen behind. The other obvious limitation is that the planes on order for early delivery are concentrated between United Air Lines, American Airlines and Trans World Airlines. While these lines may capture a lion's share of the new traffic many of the operators who will assume portions of the load will not have new or additional equipment.

Personnel is the other obvious bottleneck. Typical of the industry situation is noted that at Western Air Lines where the traditional seasonal "layoff" was completely reversed in the winter of 1950-51 and there was actually a 3% increase in employment. Now WAL is starting an intensified spring hiring program. Interchanges, such as that between Delta and American, have also helped to stabilize winter employment. This pool of trained personnel who would normally be "hired back" in the spring were never laid off. The pool doesn't exist.

Shown below are some typical case histories over the past three winter seasons for major airlines as gathered by an AMERICAN AVIATION survey:

Winter	Pilots	Mechanics
Airline A		
1948-49	78	98
1949-50	1	62
1950-51	0	2
Airline B		
1948-49	84	397
1949-50	0	38
1950-51	0	0
Airline C		
1948-49	45	19
1949-50	83	28
1950-51	0	0
Airline D		
1948-49	8	7
1949-50	13	11
1950-51	13	0

A number of the lines showing no lay-offs actually hired personnel in these categories in the winter season.

Even now both pilots and mechanics are in critical supply at most of the airlines. Temporarily, pilots are not as critical as mechanics but the large number of airline pilots in the military reserves has caused considerable concern. With much of its equipment on the early arrival list, Trans World Airlines has already exhausted its pilot list. United is hiring pilots for the first time since 1946. American, United and TWA are all having to train, and in some instances hire from the outside, men for flight engineer positions.

In these categories, all flight crew members and maintenance men, the airlines face their most severe test.

Production Worker Demand

Both clerical and production workers are in such demand by aircraft and engine manufacturing plants that all classes of personnel will be in short supply. Hiring on personnel will require concentrated recruitment programs. Even now airlines that only a short time ago gave first preference to men for all reservations and ticket counter opening are turning to women for these jobs. TWA claims it will need at least 200 new hostesses in the next nine months.

The effect of general defense plant hiring is just beginning to affect the airlines in their search for high-caliber personnel. The airlines' spring hiring effort will come at a time when defense factories are getting into their own expansion strides and in many cases the higher wages in general defense work will work against the airlines' interests.

There is no question among top officials that these personnel needs will be met and that higher aircraft utilization required to meet peak summer traffic can be attained but it will take more effort on the part of individuals and better planning by management.

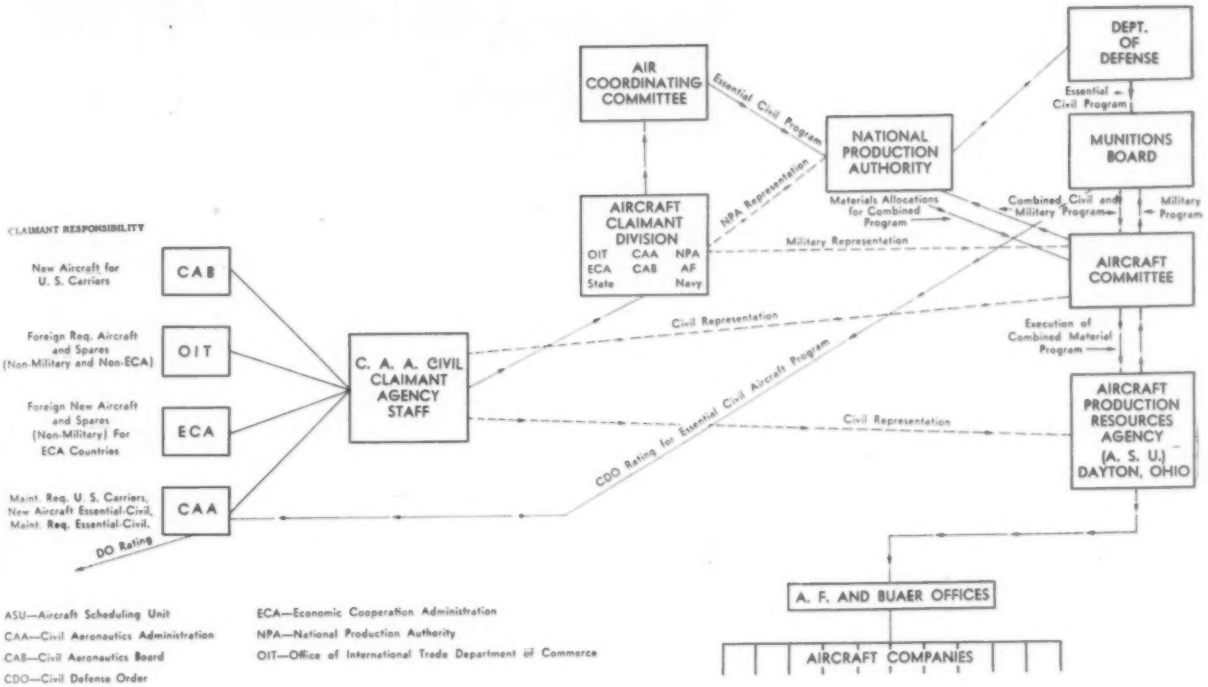
Airline Pilots Added To Top Critical Rating

Commercial airline pilots have been added to the Department of Labor's list of critical occupations in category A, the top classification in critical occupation ratings.

The Airline Personnel Relations Conference has pointed out that while this rating does not automatically defer pilots who are in the reserve or subject to the draft, it is understood that the military will generally recognize this new job status of airline pilots except in cases where a pilot seeks to return to active service.

Air Force has recently relaxed its demands somewhat, especially with regard to pilots in the un-organized reserve.

Bureaucratic Maze for Civil Plane Priorities



THERE never has been a popular priorities program. When the need for priorities became evident during the present mobilization, priorities were first issued only to the military services and Atomic Energy Commission.

This didn't work by itself. It became necessary to establish Directives which permitted certain civil groups, including the airlines, to obtain airplanes and spare parts to keep the civil transportation system operating. In some ways Directives were more potent than DO's.

Later a system of DO's for civil users was established. More recently a National Production Authority regulation, number 4, appeared to let down the flood gates and give anyone priorities. The industry at large was enraged. The claim was that the new regulation, establishing DO-97, dilutes priorities to a point where they no longer mean anything to anyone (see page 57).

It is true that the system of priorities has been diluted. Actually the civil air carriers and other branches of essential aviation can be reasonably sure of obtaining the necessary equipment and parts. But this will not be easy. For instance, parts requirements must be projected two years ahead on a quarterly basis. This takes a high-quality crystal ball.

The accompanying CAA chart and detailed verbatim instructions below are the best indication of what lies ahead for the civil organization looking for aircraft, engines, accessories and even basic materials.

1. The CAA staff will collect from the various civil claimant agencies the essential requirements for complete new aircraft for domestic and foreign civil users on a unit basis, time phased by months. Such requirements should at all times cover a future period of at least two years. The civil claimant agencies will also forward to the CAA the total value of maintenance and replacement parts necessary for the support of essential domestic and foreign civil users on a quarterly basis for an advance period of two years.

(a) In the case of foreign requirements, the Office of International Trade and Economic Cooperation Administration acting as claimants shall coordinate these requirements with the Department of State to assure that they are in consonance with United States foreign policy.

(b) U. S. requirements for transport aircraft will be forwarded by the CAB to the CAA staff.

2. These essential civil requirements so collected will be consolidated with those essential requirements for which the CAA is claimant agency and be submitted to the Air Coordinating Committee.

3. It shall be the responsibility of the ACC to review the civil requirements so presented in order to recommend to the NPA one complete program covering all essential civil aviation needs.

(a) To assist the ACC, an Aircraft Claimant Division, composed of all the claimant agencies, shall be established in the ACC under the Chairmanship of the NPA. Those departments and agencies having a major interest in the Division's activities shall be permitted to participate on those matters of substantial interest to them.

4. The Air Coordinating Committee shall transmit its conclusions and recommendations to the National Production Authority for the latter's guidance in authorizing defense orders or directives which may be necessary to carry out the program. The NPA will initiate such necessary delegations or actions with policy memoranda to the Department of Defense (Munitions Board) as may be necessary to assure the availability of production, resources and materials to support the approved requirements.

5. The Munitions Board, acting under such delegated authority as the NPA may issue, shall integrate the approved civil program with the military program and handle the necessary administration and operation incident to claiming of materials for and execution of the entire aircraft production program through its established organization. This action shall include making appropriate provision for civil aircraft in the "Aircraft Preference List."

6. Provision shall be made for civil claimant agency representation by membership on the Munitions Board Aircraft Committee and Aircraft Resources Production Agency (formerly Aircraft Scheduling Unit), and such other divisions of the Munitions Board as may be appropriate.

7. Unresolved differences in the execution of the established civil aircraft program which may develop within the Munitions Board organization shall be referred to the ACC for recommendation to the National Production Authority.

AF PROCUREMENT DISTRICTS

District Offices Get New AF Procurement Powers

The purchase of Air Force equipment is expected to be greatly facilitated since the establishment, earlier this month, of six AF field procurement offices at strategic points around the country.

Each of the procurement districts now has authority to conduct its own administrative affairs, such as advising suppliers on legal technicalities, disbursing contract payments, and handling expansion of personnel and facilities as needed.

This decentralization is expected to save manufacturers the expense of numerous trips to Air Materiel Command headquarters at Wright-Patterson AFB, Dayton, where AF procurement activities formerly were concentrated.

The six district field offices are located as follows (see map):

Northeastern District, with headquarters at **Boston**, serves Maine, Vermont, New Hampshire, Massachusetts, Connecticut and New York State.

Eastern District, headquarters at **New York City**, serves metropolitan area, New Jersey, Pennsylvania, Maryland, Delaware, Virginia and North Carolina.

Central District, headquaters at **Detroit**, serves Michigan, Ohio, West Virginia, Kentucky and Tennessee.

Mid-Central District, headquarters at **Chicago**, serves Illinois, Indiana, Wisconsin, Minnesota, North Dakota, Montana, Wyoming, South Dakota, Nebraska, Iowa and all of Missouri except the Kansas City area.

Southern District, at **Fort Worth**, serves Texas, Oklahoma, Kansas, Colorado, New Mexico, Arkansas, Louisiana, Mississippi, Alabama, Georgia, South Carolina and Florida.

Western District, headquarters at **Los Angeles**, serves California, Arizona, Utah, Nevada, Idaho, Oregon and Washington.

Certificated—Sikorsky S-52-2 helicopter, recently type-certificated by the CAA, as it appears in its latest form with a revised tail assembly. Ship has a gross weight of 2,700 pounds, is powered by a 245-hp. Franklin air-cooled engine and comes in three-place and four-place versions. Military modifications of the S-52-2 are on order by the Army Field Forces and the Marine air arm. AF designation is YH-18 and Navy designation HO5S.

Aviation Calendar

March 12-13—Third annual short course on uses of aerial equipment in agriculture, Purdue Univers.ty, West Lafayette, Indiana.

March 12-14—Annual Meeting of Airport Division Board of Directors American Road Builders Association, Schroeder Hotel, Milwaukee, Wisconsin.

March 15-17—Annual Meeting of Amer. Soc. of Tool Engineers, Hotel New Yorker, N. Y.

March 16—IAS 6th annual flight propulsion meeting, Hotel Carter, Cleveland.

March 19-22—Institute of Radio Engineers Nat. Conv., Waldorf Astoria, N. Y.

April 3-6—Greater N. Y. Safety Council annual convention and exposition, Statler and Governor Clinton Hotels, N. Y. (Aviation session, April 6, Statler).

April 4-6—CAA Airports Advisory Committee, Du Pont Hotel, Wilmington, Del.

April 16-18—SAE aeronautic meeting and aircraft engineering display, Hotel Statler, N. Y.

April 19-21—Airport Operators Council annual meeting, Hotel Peabody, Memphis.

April 23-25—American Assoc. of Airport Executives annual meeting, Minneapolis.

April 24-26—Air Transport Association annual engineering and maintenance conference, Drake Hotel, Chicago.

May 12-13—Airlines Medical Directors Association 8th annual meeting, Hotel Shirley Savoy, Denver.

May 13-14—Airlines Medical Examiners Assoc. 4th annual meeting, Hotel Shirley Savoy, Denver.

May 14-16—Aero Medical Assoc. 22nd annual meeting, Hotel Shirley Savoy, Denver.

May 19-20—Nat. Pilots Air Meet and Races, Chattanooga Mun. Airport, Chattanooga, Tenn.

May 21-24—Tenth Annual Conference of Society of Aeronautical Weight Engineers, Hotel Jefferson, St. Louis, Mo.

May 23-24—American Society for Quality Control fifth annual convention, Hotel Cleveland, Cleveland, O.

May 23-25—Institute of Radio Engineers Technical Conference on Airborne Electronics, Biltmore Hotel, Dayton, O.

May 24-25—Society of the Plastics Industry annual national meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 13-18—Aviation Writers Assn. annual convention, Hotel Commodore, New York.

International

March 20—Air Navigation Commission, Airworthiness Div., Int'l Civil Aviation Organization, Montreal.

March 27—Air Navigation Commission, Operations Div., Int'l Civil Aviation Organization, Montreal.

April 24—ICAO Communications Division meeting, Montreal.

June 5—5th Session, Int'l Civil Aviation Organization, Montreal.

June 15-July 1—1951 Paris Int'l Aircraft Exhibition, Grand Palais and Paris airport.

June 23—1951 British National Air Races, Hatfield Aerodrome, Hartfordshire, England.

June 26—3rd European Mediterranean Regional Meeting, Int'l Civil Aviation Organization, location undetermined.

TO BECOME CIVIL AVIATION 'CZAR':

Rentzel Move to Commerce Casts Doubt on CAB Future

By GERARD B. DOBBEN

THE contemplated elevation of CAB Chairman Delos W. Rentzel to the office of Undersecretary of Commerce for Transportation leaves the future role of CAB as a quasi-judicial regulatory agency in considerable doubt.

There was talk that the Board, at a new low in prestige, might be reorganized along the lines of the old Civil Aeronautics Authority and placed under one man who would serve as both chairman and administrator, responsible to the Undersecretary of Commerce for Transportation.

Under the terms of an executive order issued by President Truman February 28, broad new powers were placed in the Secretary of Commerce in connection with the mobilization of civil aviation and other forms of transportation for war, all of which are to be handled by the Undersecretary. Rentzel's appointment to the post of undersecretary, expected before this issue reaches subscribers, would make him the virtual czar of civil aviation and would enable him to exercise considerable control over the Maritime Board and Inland Waterways as well as CAB and CAA.

To Head Transport Council

Acting for the secretary, he was to become the working head of the Transportation Council whose member agencies are: CAB, Maritime Board, CAA and the Inland Waterways. He will coordinate the work of these agencies with policies and requirements of the Office of Defense Mobilization and the Department of Defense.

The powers under the President's executive order will permit the Secretary to establish such agency or agencies within the Department of Commerce and "utilize the services of the Civil Aeronautics Board" as he deems desirable in the performance of his functions. Absolute control is also given over airline operations. After Rentzel resigns from CAB, and when and if the vacancy is filled, the Board would have three members or a majority with less than three months of service. Joseph P. Adams, of Seattle, sworn in as a Board member February 6, 1951, would have seniority over the two other members, one of them former Republican Senator Chan Gurney, of South Dakota, who replaced Harold A. Jones.

Board Cut Mentioned

There was talk that if the reorganization of the Board takes place, it might be reduced to three members. This might involve appointment of two of the members to other positions.

Industry sources felt certain that if the Board is reorganized along the lines of the old authority, Donald W. Nyrop, present CAA administrator, would be offered the post of chairman and administrator. With the authority placed under the Secretary of Commerce, this would enable Rentzel to keep a degree of control over the reorganization program which he recently instituted within CAB.

Shifting of new powers to the Secretary and Undersecretary of Commerce was interpreted to mean that civil aviation will remain under civil control in wartime but with a close tie-up with national defense. Plans have been considered to militarize much of CAA to give the degree of control that was believed necessary, but the shift of power and responsibility to a cabinet officer with the authority to delegate to the Undersecretary is believed to have satisfied the military for the time being.

The completeness of Rentzel's forthcoming control over civil aviation is apparent on reading that portion of the President's executive order entitled Part III "Air Transportation," which follows:

Executive Order

"Section 301. The Secretary of Commerce shall in utilizing the functions vested in him by law, including those under the Defense Production Act of 1950:

"(a) Assemble and analyze data on the requirements of civil air transportation and of the Department of Defense for aircraft of the types used by civil air carriers.

"(b) Formulate such plans and programs, and initiate such actions, as may be desirable to meet the requirements for civil air transportation and for the types of aircraft used by civil air carriers, including plans and programs for (1) the transfer or assignment of aircraft from civil air carriers to the Department of Defense, when required to meet needs of the armed forces approved by the Director of Defense Mobilization, and (2) such redistribution as may be necessary of the remaining aircraft among civil air carriers to assure the maintenance of essential civil routes and services.

"(c) Allocate aircraft of the types used by civil air carriers as required to meet the needs of the armed forces and to maintain essential civil routes and services.

"(d) As necessary, schedule the movement of traffic and administer priorities for the transportation of passengers, cargo, and mail by civil air carriers, subject to such policies and orders as the Defense Production Administrator may prescribe.

"(e) Act as claimant for materials and manpower for the construction, operation, maintenance, and repair of civil air transportation systems and facilities.

"(f) Establish such agency or agencies within the Department of Commerce, and utilize the services of the Civil Aeronautics Board and of such other Federal, State and local agencies, as he deems desirable in the performance of his functions."

In addition, under Part IV entitled "Other Transportation Facilities," the Secretary of Commerce is given control over streets, highways, airports and airways under provisions of existing law, including those under the Defense Production Act.

Maj. Gen. Philip B. Fleming, the first Undersecretary of Commerce for Transportation, was slated to resign to accept appointment as ambassador to Costa Rica. He was made undersecretary last fall following the adoption of Reorganization Plan No. 21 which placed the U. S. Maritime Commission under a Maritime Board in the Department of Commerce with one person handling the duties of both chairman and administrator. This may be the pattern which will be followed in reorganizing civil aviation's regulatory agencies.

RAL President— E. Victor Underwood (right) receives congratulations from T. P. Wright (left), former Civil Aeronautics Administrator and a director of Robinson Airlines, on his election as president of the New York State local service airline, as Robert E. Peach, executive vice president and general manager of RAL, looks on. Underwood, president of the GLF Holding Corp. of Ithaca, was one of the pioneers in development of Robinson Airlines.

Philippine Air Lines . . .

. . . combines plush global routes with earthy local service

By WAYNE W. PARRISH

PHILIPPINE Air Lines is a study of contrasts.

It operates deluxe DC-6 service two-thirds the way around the world. And it operates a local DC-3 service on small turf fields and even parachutes payrolls to isolated mines in the Philippine Islands. It is as versatile as any airline in the world—from gold-plate global service to hauling fish in cargo planes.

After flying the DC-6 route from Honolulu to Manila and Hongkong, and flying around the islands in DC-3's in January, I gained a very healthy respect for PAL. It's an airline that's worth getting excited about.

It is 9th largest in the world in terms of unduplicated route miles, but the longest hop in the inter-island service is but 2½ hours. It lost over a million U. S. dollars in 1949, but it plopped into the profit bracket in 1950. It combines some of the best U. S. airline brains with the best of Filipino training and talent in an airline that can boast one of the lowest cost records in the world of business. Its maintenance and operating standards are high. In the five years since the war it has achieved a respected place in international aviation.

Tale of Two Men

When you talk about PAL, you're taking about two men. One is **Andres Soriano,** the president, a fabulous business man who has mines, breweries, Coca Cola concessions and lots of other items in many parts of the world. The other is **Edward T. Bolton,** a former TWA man, who is running PAL with a magic but firm hand. Soriano, a Spaniard and former Filipino citizen, is now a U. S. citizen. Bolton was born in England, is now completely U. S.

This was my second contact with PAL. Back in 1947 I had visited the base in Manila and was anything but impressed. It was strictly a marginal operation. But in four years PAL has risen into the upper ranks of world airlines. The shops are clean and well equipped. The personnel is excellent. There is a snap to the whole operation—strictly professional throughout. In passenger service PAL ranks with the best. Soriano didn't want a shoestring airline and hasn't got one.

In Manila there are 1,783 employes. Overseas there are about 250. The airline is recognized by and is now supported by the Philippine government and you'll spot PAL DC-6's on quite a few of the world's important airports.

Two DC-6B's Ordered

It has just four DC-6's, but has two DC-6B's on order for 1952 delivery. It has a fleet of 35 26-passenger C-47's including a couple of C-53's, and one DC-4. It has several single-engined Noorduyn Norsemen.

Internationally PAL operates from San Francisco to Manila by way of Honolulu, Wake and Guam. It flies north from Manila to Tokyo via Okinawa, and northwest from Manila to Hong Kong. The longest single route is from Manila to London, via Calcutta, Karachi, Lydda, Rome and Madrid. It has two round-trip flights per week over the Pacific, and one per week between Manila and London. These aren't high-density routes but the load factors have been averaging above 80%—and that means profits.

Within the Philippine Islands, PAL serves between 36 and 40 airfields regularly but has flown into as high as 70. It is sort of an expanded Hawaiian Airlines operation, providing short-haul commuter and island-connecting services. There are only three airfields with paved runways in the entire archipelago and some of the turf fields are on the tight side. But PAL's operating record has been good.

Col. Andres Soriano
President
Philippine Air Lines

Public Utility Airline

There are an estimated 7,000 islands in the Philippine archipelago, about 4,000 of which are inhabited. The northernmost island is within 50 miles of Formosa and the southernmost island is just a short hop from Borneo. Since PAL is the only airline in the islands, it is an essential public utility. Inter-island boats are slow and PAL accomplishes in a couple of hours a trip that requires a day or two by boat.

Like many another airline outside of the U. S., PAL has to furnish its own communications and weather services. The Philippine government provides nothing but the airports themselves. PAL has to supply its own buildings and all terminals except for the main terminal at Manila International Airport.

Philippine Air Lines was organized on March 15, 1941 but only a few inter-island routes were put in operation before the Japanese invasion closed down the company. After the liberation, operations were resumed Feb. 14, 1946. The international routes began operating in 1947. One of those prominent in the early days of PAL was **Otis Bryan,** former TWA vice president, who got the major PAL services under way. Bryan is now a $50,000-a-year head of the Muehlebach Brewery in Kansas City, Mo., which Soriano owns.

Profitable 1950

In 1949 the airline lost $1,250,000, but 1950 was a profitable year. The financial report had not been issued as this was written but the company had hoped for a million-dollar profit. At the end of the year the company gave each employe a bonus amounting to one-third of a month's salary which was an indication in itself of the improved financial condition. Soriano has progressive ideas about letting employes share in future profits. One good profitable year would be of considerable benefit to each worker.

Starting last March, 1950, the Philippine government began aiding

Charles N. Biondi
Regional Mgr.-India, Pakistan, Burma, Ceylon

Daniel Me. Gomez
Secretary General

Col. B. L. Anderson
Vice Pres.-Traffic & Sales

Rafael Ygoa
Treasurer-Comptroller

F. W. 'Mike' Kendall
Int'l Traffic & Sales Coordinator, Hong Kong

Ramon M. Zosa
Personnel Manager

Walter H. Nolloth
District Manager
Hong Kong

Paulino Ugarte
Assistant Vice President & Assistant to President

Antonio A. Sobral
Supervisor
Passenger Service

J. J. Cooper
Chief Inspector
International Maintenance

Benjamin Gaston
Special Representative
Traffic & Sales

Capt. Roberto Lim
Assistant to Vice President, Operations

A. Ojeda
Supervisor
Interisland Maintenance

William Zadra
Supervisor
International Maintenance

Capt. N. F. Young
Supervisor
Flight Control

Harry T. Pollard
Supt., Aircraft and Flight Equipment Overhaul

PAL's Operating Figures for 1950

	International	Inter-Island	Total
Revenue Passenger-Miles	67,679,465	47,263,196	114,942,661
Seat Miles Operated	153,773,911	81,516,328	235,290,239
Rev. Psgr. Load Factor	44.01%	57.98%	48.85%
Revenue Ton-Miles	10,405,092	5,949,922	16,355,014
Capacity Ton-Miles	15,014,187	9,186,723	24,200,910
Overall Load Factor	69.30%	64.77%	67.58%
Freight Ton-Miles	2,049,764	1,369,168	3,418,932
Revenue Miles Flown	3,117,305	3,935,014	7,052,319

the airline to the extent of one peso (50c) per mile flown internationally. On the inter-island services, the government pays 60 centavos (30c) per airplane-mile for the first 300 lbs. of mail and one centavo per mile for each 100 lbs. additional, but this payment is only on those routes and flights designated for carrying the mail.

PAL carries virtually all mail from Manila to the U. S., with Pan American carrying mail from San Francisco to Manila. The Government's decision of last year to aid the airline has been an important factor in the 1950 financial trend.

In 1949 PAL had a gross revenue of $12,529,750, just behind National Airlines in volume and ranking just below the top ten U. S. airlines in dollar intake. Last year will probably find it in about the same position.

TWA Holds Small Share

At the moment, the Philippine government owns 52% of the airline and Soriano owns about 25%. This situation is not expected to be permanent, however, as the government stock was a temporary move to aid in purchasing equipment. It is probable that the government will continue to own part of the company, however.

TWA still has 6% of the stock but is not at all active in the company and has no member on the board of directors. The TWA investment, dating back to revival of the company in 1946, probably will be liquidated one of these days.

The airline's maintenance base at Manila is well equipped and a good inventory is maintained in the extensive stockrooms. DC-6 engines have to be maintained and overhauled elsewhere, however, and PAL has a three-point progressive maintenance system which will be described in a future issue.

United Air Lines does the overhauling at one end of the line, San Francisco, and KLM near the other end of the line at Amsterdam. The first 8,000-hour DC-6 overhaul came up early in February and PAL was undertaking that in Manila. It is planning to expand its facilities in order to handle all overhaul problems itself eventually. At the moment it is well equipped to handle all DC-3 maintenance.

Top Men Picked

Otis Bryan, and then Ed Bolton, took to PAL the best techniques and operating practices in the airline industry. They surrounded themselves with top-notch men from other airlines, men such as **Bill Zadra,** supervisor of international maintenance, and **J. J. Cooper,** and others. In the islands they found an excellent group of men and supervisors such as **Capt. Robert Lim,** son of a national Philippine hero, who is now assistant to the v.p.-operations.

First pilots on the international routes are Americans. In the islands about 50% of the first pilots are Filipinos and this ratio will continue to increase in favor of local men as soon as more can be trained.

The airline boasts of its on-time DC-6 records and Ed Bolton is kept advised constantly of the latest position reports between London and San Francisco. Few airlines in the world can probably match the on-time record which PAL has been chalking up. PAL is taking out only 1,000 horses from the DC-6 engines and as a consequence mechanicals are few and the overhaul time is now 1,250 hours and will probably go to 1,400 this year.

Climatized Fleet

All PAL DC-6's have white paint on their tops and this scheme is being extended to all DC-3's as well. Soft colors are used in the interiors and in every DC-3 there are murals against the forward bulkhead painted on matting. White seat covers which cover the seats entirely are used on the DC-3's, and interior fans are used in all airplanes of the fleet. The Philippines are hot and humid for all but a month or two of the year.

Over 20 daily schedules are operated through the islands and a substantial amount of cargo is being carried. Sunday and night flying has never been popular with the Filipinos but PAL is endeavoring to build up the Sunday business. This is an especially good day for cargo with outbound flights loaded with Sunday newspapers and inbound flights bringing fruits, vegetables and meats. One C-47 is used almost exclusively for fish. Passenger fares in the islands average about 10c, somewhat higher than in the U. S.

Import restrictions by the Philippine government have not helped the airline except insofar as inventories are low outside Manila and the airline is now used more for fast shipments of parts and supplies. But there is less movement of business men among the islands. The economic situation in the islands is not healthy at the moment and this naturally has an unfavorable effect on the airline. But the domestic division was in the black for 1950 even so.

Tourist Potential

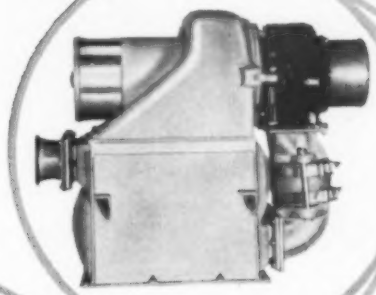
Efforts are being made to increase tourist business from the U. S. to the islands, but the Far East situation will retard these efforts and there are few adequate hotels outside of Manila. Yet the island scenery is good. In the long run the islands may be able to develop tourist business which will help both the country and the airline.

The Filipino is rightfully proud of PAL. Although top management is primarily American, the Filipino makes the airline tick. Station operations are handled efficiently. The Filipino makes an excellent shop worker, too, and the Filipino stewardess is something to behold. PAL doesn't have to take a back seat when it comes to glamor and the gals are not only good looking but efficient as well.

On the sales-traffic side there is **Col. B. L. Anderson,** v.p.-traffic and sales, who is a legendary character in the Philippines from his war-time guerilla activity. Under him is **Leo Rovira, Jr.,** a savvy traffic man. **R. M. Zosa** is personnel manager. **Daniel Me. Gomez,** secretary general, is a smart attorney well up on international air law and negotiating.

In Hong Kong is **F. W. "Mike" Kendall,** an alert traffic operator who has been developing a lot of business for PAL from the mainland. PAL also made a ten-strike when it got **Charlie Biondi** as agency and interline manager—he had been the IATA representative for the Far East. In San Francisco **Al Aldridge,** a former Braniff man, is regional traffic and sales manager and **F. C. Jones** is administrative officer.

All the way down the line PAL has played it smart in personnel selections both at Manila and abroad. As a result it has developed an airline first class in every respect. But tying it all together is Ed Bolton, a solid, cautious and able administrator who not only has to think of the traffic potential of Madrid and Lydda, but of the traffic needs of a small town on one of the many Philippine islands. Few men in aviation have to have his breadth of vision and have to act in such a wide scope of operation. PAL is a good show.



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Designing and building compact, light and efficient equipment for cooling and pressurizing aircraft is a Stratos specialty. Typical of Stratos creative engineering is the air cycle cooling unit which conditions the air for the crew of the Boeing B-47. Weighing less than 45 pounds it delivers 60 pounds of minus 3 degree Fahrenheit air per minute. Like other Stratos equipment it can be relied on to give long and trouble-free service. Stratos cooling units with air flow capacities ranging from 12 pound/min to 90 pound/min are standard equipment in many combat aircraft of the Navy and the Air Force.

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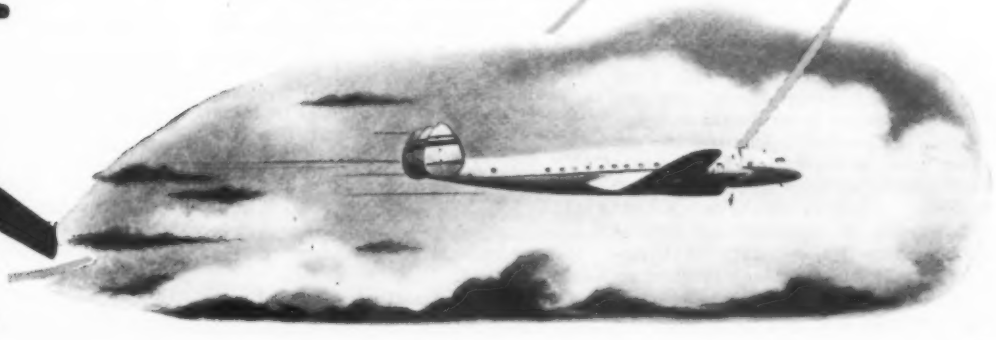


FIVE RECIPIENTS of CAA's gold medal for exceptional service and four of 11 employes awarded meritorious service citations pose for their picture during presentation ceremonies held in Washington. Front row, left to right: Jean D. Paulson, Glen A. Gilbert, Arthur J. LaBaie and Robert Rosenbaum. Back row (l. to r.): Floyd N. Wheeler, Richard I. Haggin, Cornelia F. Muddiman, Lawrence H. Sturkey and Norman B. Horton.

Five CAA Employes Awarded Gold Medals for Heroic Actions

Gold medals for exceptional service have been awarded to five Civil Aeronautics Administration employes, and meritorious service citations have been presented to 11 others.

The gold medals were presented in ceremonies in Washington, while the citations were presented in the field. Recipients of the exceptional service medal, CAA's highest award, were:

Floyd N. Wheeler for great personal heroism in saving the lives of two King Island Eskimos at Nome, Alaska, last May 23 "under circumstances which placed his own life in jeopardy." Wheeler, a CAA mechanic at Nome, went out in a 14-foot aluminum boat with an outboard motor to rescue the two men from an ice floe 18 miles offshore.

Richard I. Haggin, now an aircraft communicator at Juneau, for his heroic action last August 26 in saving a fellow employe, Richard J. Dempsey, from drowning at Woody Island, Alaska.

Jean D. Paulson, who, with total disregard of his own safety" and despite the danger from flames and explosion, extricated a Pakistanian air cadet from a crashed P-51 at Craig Field, Jacksonville, Fla., on August 9, 1949.

Lawrence H. Sturkey, an airport traffic controller on duty at Charlotte, N. C., when a plane crashed on take-off and the right engine and wing caught fire last May 24. Disregarding the serious danger of possible explosion, Sturkey rescued one passenger, re-entered the plane to assist in the rescue of another, and started back to rescue a third through flames when an emergency crew arrived and took over.

Norman B. Horton, a traffic controller off duty and taking flight training at Charlotte on the same day, rushed to the burning plane "in complete disregard of his own safety" and used a fire extinguisher to delay the spread of fire until arrival of the emergency crew.

Those receiving meritorious service awards were:

Glen A. Gilbert, "for extremely competent performance of official duties for many years with CAA, with particular reference to the development of air traffic control and to contributions to international aviation programs as a U. S. delegate.

Arthur J. LaBaie, "for extremely competent performance of duties for many years . . . with particular reference to establishment and maintenance of the Federal Airways System.

John C. Ireton, "for unusual ingenuity in overcoming many obstacles in transferring government buildings from Midway to Wake Island, and effecting considerable savings to the government."

Lester E. Bachman, for outstanding performance of duties as chief aircraft communicator at Nantucket, Mass., including unusual competence in several emergencies."

Joseph A. Schmidt, "for unusual competence and resourcefulness in maintaining all services to the flying public at Pembina, N. D., during the Red River flood of last spring."

Roy R. Boose, "for unusual courage and competence in saving the life of a fellow employe at Barrow, Alaska, on January 10, 1950."

Robert Rosenbaum, "for outstanding contributions to the field of aeronautical engineering, with particular reference to flutter prevention."

Richard F. Jipp, "for outstanding courage and competence in maintaining weather service for 56 hours without assistance during a severe snow storm at Philip, S. D., on January 3, 1949."

Vernon A. Counter, "for courage and resourcefulness beyond the normal call of duty in rescuing persons from a wrecked aircraft at Petersburg, Alaska, on December 2, 1949."

Lucille N. Kelley, "for outstanding performance and extraordinary devotion to duty in the personnel branch of the CAA's Third Region."

Cornelia F. Muddiman, "for unusual diligence and extremely competent performance of clerical duties in the CAA in connection with the distribution of printed materials to the aviation industry."

PEOPLE IN THE NEWS

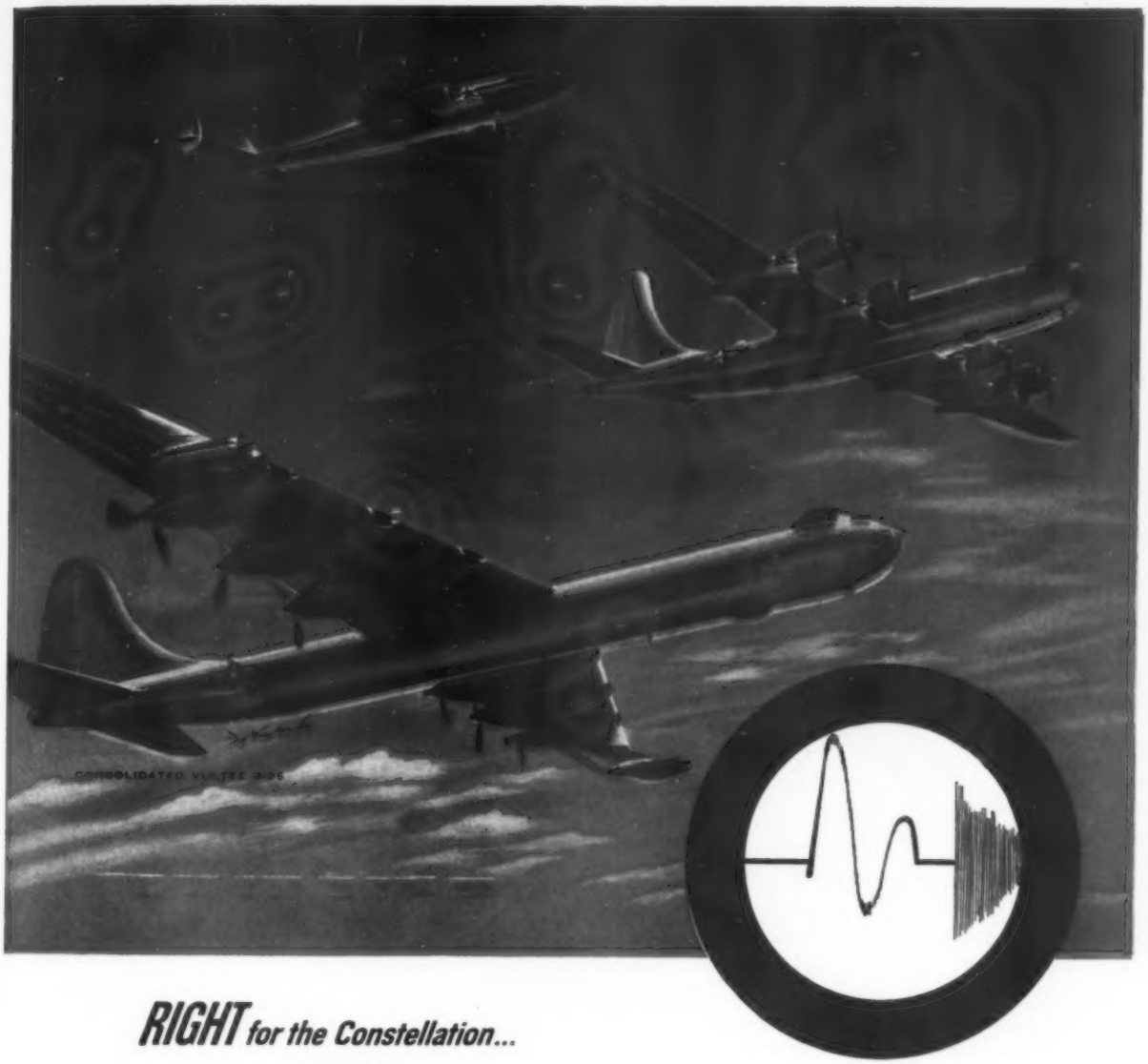
Prof. Courtland D. Perkins has been appointed chairman of Princeton University's Department of Aeronautical Engineering, filling a vacancy created by the appointment of **Prof. Daniel C. Sayre** as director of the new James Forrestal Research Center. Prof Perkins has been a consultant for the U. S. Air Force, Chase Aircraft Co. and Cornell Aeronautical Laboratory.

Paul Aiken, former assistant postmaster general in charge of air mail, has opened law offices at 1066 National Press Bldg., Washington. He also maintains a law office in Topeka, Kansas.

Roland M. Preisman, chief of the Transportation Branch, Solid Fuels Administration for War during World War II, has been named deputy director of the Transportation, Public Utilities and Fuel Division of the Office of Price Stabilization. He recently served with the Economic Cooperation Administration.

James J. Kelly, Jr., counsel for the National Advisory Committee for Aeronautics, has been appointed counsel to the Export Controls subcommittee of the Senate Interstate and Foreign Commerce Committee.

Dr. John C. Cooper has accepted the position of director of an Institute of International Air Law which is being set up by McGill University of Montreal. Dr. Cooper has long been active in international legal matters and has been a member of the Institute for Advanced Study at Princeton University since 1946.



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THE U. S. NAVY has recently authorized substantial quantity production of the F7U-3, newest version of the twin-jet Vought Cutlass fighter airplane.

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Between the Lines:

• Where Naval Air Reservists Stand
• ODM Down-Grades Plane Production
• Defense Program Getting Up Steam

By James J. Haggerty, Jr.

AWHILE back we rounded up the Air Force Reserve situation with regard to a reservist's chances of being called back to active duty. Now the Navy has provided some parallel information.

Generally, it might be said that an inactive reservist in Naval aviation who does not want recall to active duty can go right on making plans as a civilian. As our informant put it, if a reservist has not been on active duty within the past 18 months and if he has not applied for active duty, his chances of being recalled are absolutely nil.

Even organized reservists stand a good chance of not being called up. The Navy does have a requirement for a number of trained aviation reservists and will call up several organized squadrons between now and the end of the 1951 fiscal year (June 30). A number of squadrons have already been alerted and their members given reporting dates. It is probable that more reserve air squadrons will be ordered to active duty within the current fiscal year, but just how many and when hinges on so many intangibles that the people handling the reserve recall program are unable to predict.

Although news dispatches have given the impression that all three services are pulling in their reserves at a rapid rate, even a Navy air reservist who wants to be recalled would find it difficult. Naval aviation now has a backlog of some 5,000 volunteers in all categories. There are no great personnel shortages in Naval aviation and, with certain minor exceptions, there are no "critical categories" such as there are in the Air Force.

In certain categories, although there is no critical shortage, there is enough of a demand for personnel that the reservist applying for active duty would be snapped up immediately. An example cited was a reserve transport pilot who has kept current in Navy transport types, even though he might not belong to an organized unit.

This is all based on the currently projected expansion program, and this program has been subject to so much change that nothing can be considered definite. It is also based on the money available in the current fiscal year's budget, and increased fund allocations in the 1952 budget might step up the reserve recall program. But for the time being, inactive Navy air reservists who like the feel of mufti better than Navy blue can count on being civilians for a while.

Aircraft Need Higher Planning Level

IN THE bureaucratic confusion that is enveloping Washington as the mobilization program gets under way, it comes as no great surprise to learn that the Office of Defense Mobilization, the top agency in charge of handling our defense build-up, considers the aircraft production program less important in the mobilization program than the motion picture industry.

As far as ODM's organization is concerned, aircraft production rates very low. The problems concerned with aircraft production are handled by a section of the Transportation Equipment Division of the National Production Authority, which is under the Defense Production Administration, which in turn is under ODM's overall supervision. The mobilization problems of the motion picture photographic industry, however, are handled by a separate division of NPA, in other words one notch higher than the unit assigned to handle aircraft production.

This is apropos of nothing except that some members of the aircraft industry are unhappy with the current organizational set-up of ODM. They point out that in the last war aircraft production was handled by a separate board headed by the vice chairman of the War Production Board, and they think that aircraft production, the largest single item in the mobilization program, should be on a similar level of ODM this time.

It's not petty quibbling; the status of the unit handling aircraft production can be important, since it handles production problems, materials allocations, etc. When the program really gets moving, as it will very soon, an inadequately staffed organization operating on a low level of authority could develop into a major bottleneck. The bottleneck ought to be eliminated before it develops by putting aircraft production in a high organizational level, where the myriad problems connected with it can get the priority handling they deserve.

Speed-Up in Defense Program

ALTHOUGH there is still considerable grumbling that the mobilization program isn't moving fast enough, it's apparent to the closer observer that it's moving a lot faster than most people realize.

In a press conference recently, Secretary of the Air Force Finletter dropped a couple of bits of information which point up the tremendous acceleration which is taking place in the defense program. The case of the Boeing B-52 is an excellent example.

Not very long ago, before the big push started, the B-52, eight-jet long range bomber, was scheduled to make its first flight about the middle of 1952. Now, according to Finletter, the first experimental model of the plane will fly this fall, almost a full year ahead of schedule. Not only that, but the first production models are scheduled for delivery the end of this year, several months before even the "X" model would have flown under normal schedules.

Another case in point is the new swept-wing, all-jet version of the Convair B-36. Convair has just received a contract to go ahead with the development of the jet version, which is practically a completely new airplane, since it requires redesign of the entire wing. Originally it had been estimated that it would take about 18 months to develop a prototype of a jet B-36. Now, however, Finletter says it will fly late this year, a development schedule unheard of before Korea.

The acceleration is not just in experimental aircraft. All along the line schedules are being moved up with considerably less difficulty than had been anticipated, and although the Defense Department isn't talking about it, it appears that the mobilization program is outstripping even the most optimistic timetables.

INDUSTRY PERSONNEL

H. N. May, formerly purchasing agent for Consolidated Vultee Aircraft Corporation's San Diego Division, has been promoted to chief of material, in charge of both subcontracting and purchasing. **J. C. Buchan,** buying supervisor, succeeds May as purchasing agent.

May

Ray Hart has been promoted from secretary-treasurer to vice president and treasurer of Grand Central Aircraft Co., while **Elaine O. Care** has been promoted from assistant secretary to secretary and **Sanford Carpenter** from internal auditor to assistant secretary.

J. Copeland Gray of Buffalo, a former member of the National Labor Relations Board, has been named as special consultant on labor relations matters to Bell Aircraft Corp.

W. H. Thue has been promoted from production manager to plant manager for Douglas Aircraft Co. at Santa Monica, and **Jock Simpson** has been promoted from assistant manager and superintendent to plant manager at Long Beach. These promotions followed the elevation of the former plant managers, **L. A. Carter** at Santa Monica and **F. W. Herman** at Long Beach, to division general managers.

Woodrum E. Woolwine, formerly structural design engineer for The Glenn L. Martin Co., has been appointed assistant chief of structures with Northrop Aircraft.

MILITARY PERSONNEL

Col. Clare Welch, chief of the public information office of the AF's Air Materiel Command, will retire from the Air Force on March 31. **Lt. Col. Ray Taylor** will replace him.

Carl Cooper has been named to head the Navy purchasing office in Los Angeles, succeeding **H. L. Brewer,** former chief purchasing agent. Brewer has been transferred to the Bureau of Supplies and Accounts in Washington. Cooper has been in the contract administration division of the Los Angeles office for the past five years.

Rear Adm. John P. Whitney, former vice commander of Military Air Transport Service, has been awarded the Distinguished Service Medal by the Air Force for his work in helping establish the Military Air Transport Service.

Brig. Gen. George R. Acheson, former vice commander of the Eastern Air Defence Force, has been appointed commander of the newly organized Central Air Defense Force with temporary headquarters at Kansas City.

PRODUCTION SPOTLIGHT

Winding Up B-45 Production: **North American Aviation** is nearing completion of the USAF's B-45 four-jet bomber project at its Long Beach, Calif., plant. Only remaining work on the jet bombers is now being done on the ramp outside the plant. With the B-45's out of the way, North American will concentrate on modernization activities at the Long Beach plant. Modernization work in progress includes a line of F-86A jet fighters which were returned from operational units to the factory for the inclusion of new engineering features put into effect after these early models of the swept-wing Sabre left the production line, and a line of T-6G trainers which are being "remanufactured."

North American shares the big Long Beach plant with **Douglas** Aircraft Co. Douglas uses the major portion of the plant for production of the Air Force's C-124 heavy transport. Douglas purchased its portion of the plant for about $8,000,000, but North American continues to operate under government lease.

K-F Buys Engine Plant: *Kaiser-Frazer Corp., new member of the aircraft industry, has purchased its Detroit engine plant from Continental Motors Corp. K-F had been leasing the plant from Continental since March, 1947, for automobile engine production. Part of the plant will now be converted to production of the Wright R-1300 aircraft engines which K-F will build under license. Production of auto engines will also continue in the plant.*

Douglas Expansion Plans: **Douglas Aircraft Co.'s** plans to expand its manufacturing facilities at its Santa Monica, Calif., plant nearly run afoul of legal difficulties. The Santa Monica city attorney had ruled that it would be illegal for the city to lease 20 acres of airport property to Douglas. The land, which adjoins the Douglas plant, was originally acquired by the city through a special bond issue for public park purposes and the city attorney said that the proposed lease agreement whereby Douglas would pay about $500,000 over a period of about 25 years was "improper use of dedicated land." However, it was found that a slight shift of boundary lines would avoid the parcel of park land. Douglas has plans for a building costing about $1,000,000 and installation of equipment which would run about another $1,000,000.

Small Business Squeeze: *The House Small Business Committee is planning an investigation of the defense program as it affects small businessmen, after a number of complaints that the program threatens the existence of small manufacturers. Small businessmen complain that they are caught in a "squeeze" because they can't get materials for normal civilian production and few have been able to line up defense contracts. The committee plans to hold hearings in various parts of the country soon to see what can be done about the situation.*

Interest in C-W Extrusion Process: **Douglas Aircraft Co., The Cleveland Pneumatic Tool Co.** and **Bendix Aviation Corp.** have accepted an offer by **Curtiss-Wright Corp.** to provide technical assistance in adapting C-W's hot extrusion process for manufacturing propeller blades (AMERICAN AVIATION, March 5) to other aviation applications. Some applications suggested by C-W are landing gear struts, helicopter masts, rotor blade spars and drive shafts. Under the process, C-W stamps out completed propeller blades in a few minutes through use of a 5,500-ton Loewy press. The process has the same effect on C-W's productive capacity as tripling the company's plant space. As currently set up in the USAF's pilot plant at Adrian, Mich., the Loewy press can handle as many as four blades an hour, and this with manual handling of the equipment. Development of automatic handling equipment and availability of more presses will send propeller blade producibility soaring. At present C-W can stamp out only 10-foot blades, due to limitations of the presses, but presses are now being designed to handle larger blades.

Natural Rubber for Plane Tires: *Aircraft tires are not affected by a new government regulation on the use of natural rubber. Although a National Production Authority order eliminated the use of natural rubber in some 40,000 items, plane tires may still be constructed of 100% natural rubber, NPA officials said.*

—J. J. H.

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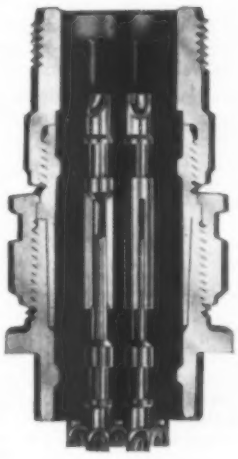

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Aviation Engineering of Atomic Weapons

By RICHARD G. WORCESTER

ENOUGH general information is now available on fission and fusion weapons to assess in broad outline some aviation design problems involved in delivering them. During the war the Manhattan District engineers did not need to consult the aircraft industry on how to carry the relatively clumsy prototype weapons to Japan because the Boeing B-29 was available. This was—and is—a very versatile bomber able to lift anything from an incendiary to a 22,000-lb. block-buster.

Modern jet bombers, however, are much less accommodating, mainly because a higher proportion of the aircraft loaded weight is used for fuel, and the space for weapons is severely limited—with fuel and weapons competing for space on or near the c.g. This central problem affects in varying degree all the eight U. S. types of A-bombers, the two British models and both the Russian fission weapon carriers. It is even more critical in the four U. S. and at least two British A-bomber projects which are all transonic jets.

The operational inflexibility of all jet aircraft means that the penalty for lack of cooperation between the Atomic Energy Commission and the aircraft industry will be correspondingly greater.

It has been said that danger exists in flight of a low order explosion of fission-type weapons from atmospheric neutron activity (neutrons are formed by nuclear disintegration of cosmic rays with ambient oxygen and nitrogen nuclii). In fact, however, this hazard can be neglected because even with the weapon fully assembled and the sub-critical elements closest, the weapon can be made decidedly sub-critical overall. The method of arranging this is probably one of the reasons why external pictures of the weapon have been restricted. Essentially it is a matter of reflector efficiency.

Catching Fast Neutrons

A likely reflector material is beryllium which can catch fast neutrons that have a health hazard. Fast neutrons entering the body are slowed down by a series of collisions upsetting the atoms, and therefore the molecules, of the human cells. The neutron is finally slowed down to normal velocity (when it is known as a thermal neutron) and is then usually absorbed by a hydrogen nuclii in the body—most of which is water, and as it does so it emits a gamma ray.

Because of the heavy reflector wall, the fission weapon does not need a radiation barrier, as such, for crew protection. But besides fast neutrons there is also a further danger because plutonium metal is one of the "hottest" materials to handle. Plutonium is an alpha-emitter with a half life of 25,000 years. The range of an alpha particle in air is less than 8 cm. and as it is a relatively large body it cannot penetrate the body very far. Consequently, plutonium in the aircraft and on the apron is mainly an inhaling and ingestion problem because alpha particles can collect in parts of the body where their continued activity can be injurious.

Aircrew and ground crew can handle plutonium with gloves provided, for instance, there are no exposed skin breaks. Smoking and eating near plutonium is always prohibited because of fingers being near the mouth.

Dust particles in contact with plutonium might be dangerous if breathed in the aircraft and so there is also a ventilation problem. This can be solved by sucking air from over the metal and ejecting it (which is the way hospital staffs handle radium) or by keeping the plutonium in the equivalent of the laboratory "dry box." Modern weapons, however, use very small amounts of plutonium—and the size of the sub-

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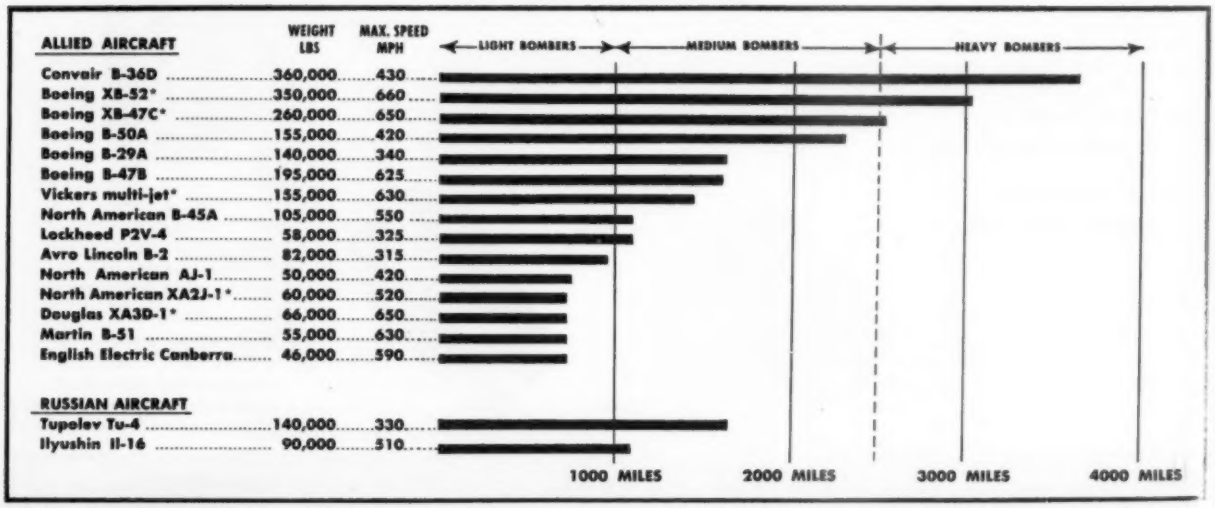

THESE AIRCRAFT, carrying an atomic bomb load, show that in the heavy, and medium bomber classes the piston-engined types still have a decidedly longer range than equivalent jets. But the Boeing B-47C looks like it should be the USAF's second heavy bomber design. The North American XA2J seems likely to be the world's first multi-engine turboprop bomber. The North American B-45 is shown somewhat optimistically in its fully developed form. USAF B-45's are light bombers. The 400-odd Russian Il-16's are also probably, in practice, light bombers.

critical parts is only a matter of a few inches. The moving parts of the weapon are indeed light and compact and it is mainly the accessories which take up the weight and space.

Both ground crew and air crew have to observe the maximum normal radiation dosage of .3 roentgen equiv. per week, but as the radioactivity is soft (nothing approaching, for instance, a millicurie) there is no particular reason why the limit should be approached. Incidentally, this limit is fixed by certain parts of the body, like the spleen, which are sensitive to radioactivity and if these organs could be separately shielded, the body might be cleared for much higher doses. In practice, workers can receive their full weekly dose in less than a day without harm and so the way to minimize the inconvenience of radioactivity is to have a high turnover of personnel on a rotational basis.

Carriage of Weapons

If the hydrogen fusion weapon can ever be made to work it will probably be completed in the fairly near future. Thus du Pont Co.'s recently announced production of this hypothetical weapon and the 350,000-lb. Boeing XB-52 intercontinental transonic heavy bomber are proceeding in step.

A broad understanding of the fusion weapon is necessary to appreciate the kind of package which the aircraft industry may have to transport. All that can be confidently said is that this weapon could not use the nuclear reaction identified in most stars, of protons on one side and carbon and nitrogen on the other, because the sustaining temperatures are far too high and are quite out of reach.

There are, however, various thermonuclear theories which are more practical— one is the synthesis of two protons to form a deuteron with the emission of a positron at the collision point. The feature of this reaction is that the repulsion of like forces in the nuclii is less and so this repulsion can be overcome by using much lower temperatures. But whether it would work from the [illegible] degrees in the first .1 microsecond of bomb fission in air seems doubtful. Bethe has estimated that even at 2 x 10^9 the probability of appreciable fusion is extremely unlikely.

The deuterium reaction might be initiated by using tritium thus using a multi-stage detonation: (tritium is thought to be hydrogen with two neutrons as well as the proton in its nucleus—deuterium has one neutron and the proton). But tritium is even more difficult to produce than plutonium and can be evolved only at the expense of plutonium as both

Design Trends

By Richard G. Worcester

A CONSIDERABLE number of people evidently think that reheat and afterburning refer to the same process in a turbojet engine. In fact the two are quite different—and the British have added to the confusion by mixing up the names. On page 24 of the November 27 issue of AMERICAN AVIATION is shown a diagram of a typical reheat job with fuel injected aft of the turbine wheel and shaft power recovered from an additional turbine wheel mounted further downstream. Afterburning is a more wasteful way of increasing output by injecting fuel behind the wheel and allowing the valuable heat to pour out of the engine without any shaft power recovery. A variation of afterburning is the injection of fuel ahead of the wheel with flame lag keeping the burning in the tail cone behind the wheel. This strictly needs some special name or neat qualifying phrase which conveys the idea of pre-wheel injection afterburning. The British should go along with these names because they are logical.

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Martin's B-56 (or B-57) Canberra has many characteristics which make it suitable as a ship-based bomber. It has a low aspect ratio and so it could be compactly folded; it has a low wing loading and low landing speed which are ideal, its spread dimensions could be accommodated on the 45,000-ton ships and it has a low aspect ratio tail giving it a low maximum height. It is probably not so fast as the Douglas XA3D-1 but it may be more practical. The A3D's 65,000 lbs. and entry speed of about 90 knots are sure going to twang those arrester wires.

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The French five-year plan for production of 1,000 aircraft is concentrated on four main types of tactical air weapons—mainly the Vampire and Dassault Ouragan. But France is still a very weak ally as the following figures show:

Estimated Production December, 1951

	France	U.K.	U. S.	U.S.S.R.
Annual production	200	1,400	5,000	10,100
Number of combat designs ..	4	18	29	9
Annual number of aircraft per million population	3.18	28	33.3	58
% increase over 1950 production	over 100	100	100	over 20

•

If there is any one man who has pulled France together in the world of postwar aviation it is M. Marcel Dassault who has recently been made Grand-Officier de la Legion d'Honneur by the French government. Besides Ouragan production he has a backlog of 295 MD-315 light twin-engined aircraft. The swept-wing version of the Ouragan called the MD-452 Mystere has, according to last reports, made four flights in the hands of veteran test pilot Col. Rozanoff. The night fighter version of the Mystere, the Dassault Aladin, in fully developed form with a Hispano Tay, may be the fastest all-weather fighter in the world.

•

Ryan has run a picture of the huge new "big-as-a-Navion" external fuel tanks in the Ryan annual report for 1950 published this month. All the company says is that they are for "advanced" types of aircraft and it has a "large contract" for the tanks. The tanks may be the ones for the Boeing B-47B which lie between the inner and outer pods on each wing. These tanks, or perhaps ones even larger, will also go close to the fuselage on each side of the four-engined XB-47C and probably are the addition which makes this the world's first jet heavy bomber. A third application of the tanks is outboard of the outer engine pods of the projected XB-52.

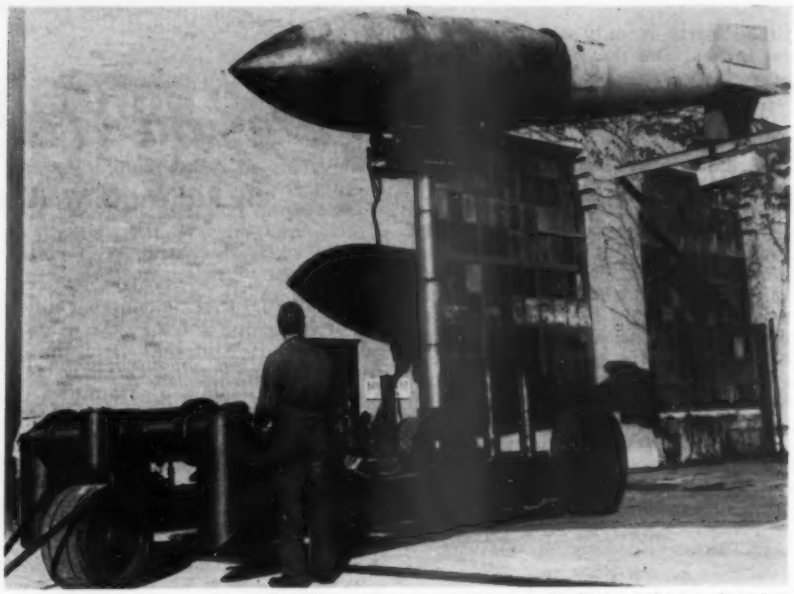
materials are created in the same type of reactor.

Another weapon possibility is lithium and hydrogen fusion into helium by some such process: $_3Li^7 + {}_1H^1 \longrightarrow {}_2He^4 + {}_2He^4$ which is known to release over 17 Mev fusion energy.

All this would imply that structurally the fusion weapon would consist of a series of wrappings round the fission heat source. This would tend to increase the diameter but not necessarily the length. Nothing could be more awkward than this from the aviation standpoint. There are various ways of increasing the length of the bomb bay by knocking out bulkheads, etc., but the width is immutably fixed. A high fuselage L/D is essential for sonic cruising speeds and to keep the minimum fineness ratios of about 9 with a bomb bay much wider than those in current use is going to be very difficult, because the fuselage will be so long.

The fission heat source with its reflector is roughly 26 inches in average diameter and about 120 inches long. The maximum bomb bay width leaves about 70 inches for the weapon and this means that the fusion elements must occupy a saddle of not more than about 25 inches. A further consideration is that tritium is radioactive emitting low energy beta particles at .01 Mev and so a reflector of suitable thickness must cut into the space for fusionable materials. There is also the thickness of the shell to be considered.

Unless, therefore, du Pont can compress the fusionable material into a



A-Weapon Shell— In order that early atomic weapons should have known dropping characteristics the equipment was stowed in the shell of a 22,000-lb. TNT bomb similar to the type with a long tail on this hydraulic cradle. Modern weapons have a more compact internal arrangement of parts and a shell designed for the job. They are also much lighter but still require a 25-ton bomber to lift them any distance.

To speed delivery, Northrop builds Scorpions by longitudinal halves, right up to final assembly. This "on-the-half-shell" production technique permits free installation of equipment in wings, fuselage, tail, and nose.

Split Scorpions Hatch Faster!

Manufacturing ingenuity at Northrop results in consistent high production marks. The Scorpion F-89, newest Air Force all-weather interceptor, is fast and deadly—with electronic search equipment and heavy armament. It is a modern successor to the famous P-61 Black Widows, built by the hundreds at Northrop during World War II.

Northrop
Pioneer

very compact space the aircraft industry is going to be presented with a major difficulty in stowing this weapon. The energy released with fusion is about seven times greater per particle than that by fission. But the greater heat potential of the fusion weapon is due not so much to the efficiency of the reaction but rather to the much larger quantity of fusionable material which can be made to react. In other words, the bigger the saddle, the bigger the heat flash.

Tactical Atomic Weapons

There has been much discussion of "small" atomic weapons suitable for carriage by jet fighters. The greatest load which could possibly be carried by existing 13,000-lb. jet fighters (F-80, F-84, etc.) is about 4,000 lbs. but this load cannot be carried in one place. Assuming, however, that structural changes would make it possible to take 4,000 lbs. under one wing, this is nearly one-half of the weight of the standard fission weapon which needs an aircraft of about 50,000 lbs. to lift it any distance.

The fully developed Douglas A2D Skyshark now weighing about 24,000 lbs. could probably be made to carry a concentrated load of 8,000 lbs., bearing in mind that distributed loads of 6,000 lbs. are already being hauled by the Douglas AD-2 in Korea. The A2D is, therefore, at the present time very close to being able to take an atomic weapon externally and is certainly the only type of fighter which can do so in the immediate future. Later 20,000-lb., high-speed aircraft like the Republic F-84F would be able to take future types of weapon with a lighter shell and reflector, mounted at one wing root.

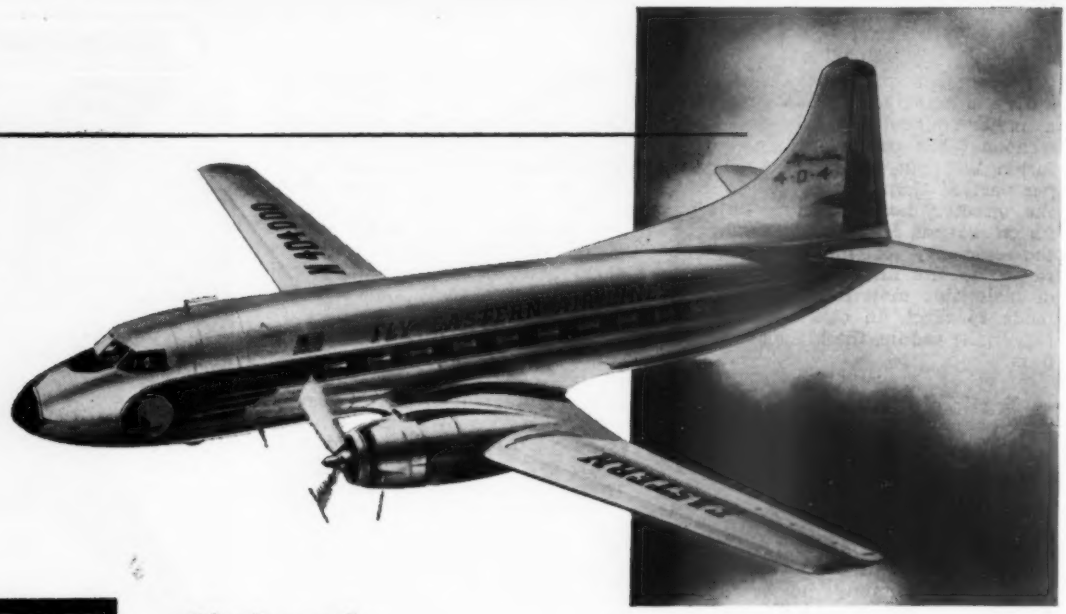
Tactical value of the atomic bomb has probably been greatly exaggerated but clearly it is an important USAF requirement that such weapons should be carried by fighter-bombers.

Atomic artillery and missiles with nuclear warheads are clearly a more remote development. Assuming that an atomic weapon of half the present weight were developed (which is unlikely), it would still be twice as heavy as the greatest load which could be lifted by the most powerful known missile. And even if it could be lifted the greatest range would be of the order of 200 miles. Its accuracy is still that of a strategic weapon yet its range brands it as a tactical weapon. In its most advanced form it is, therefore, a weapon which is neither strategic nor tactical and a great deal of work is required to make it perform one of these roles effectively.

Sonic A-bomber— Latest reports make it clear that the Boeing B-47 has now reached sonic speeds in a shallow dive. Level speed is 630 mph. Trials with an atomic weapon have been completed at Special Weapons Command, Kirtland, N.M. which adjoins the Los Alamos Laboratory, at gross weights up to 190,000 lbs. Weight of the 650 mph LB-47C is expected to be about 260,000 lbs.

Aircraft, Inc., Hawthorne, California

Builders of Night and All-Weather Fighters



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Wilcox Type 429A Glideslope Receiver Chosen for EASTERN'S Entire New Fleet of Martin 4-0-4's and Super Constellations

The safety and performance record of Eastern Air Lines' magnificent new fleet will depend upon the flawless operation of their I.L.S. navigation system. In selecting the Wilcox Type 429A Glideslope Receiver as an important part of this system, Eastern paid a great compliment to the dependability and performance of Wilcox equipment.

The Wilcox Type 429A Glideslope Receiver provides 90/150 CPS tone modulated glideslope signals in the 329-335 Mc. range.

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Routine inspection and service is made easy by the careful arrangement and instant accessibility of all tubes, components, and wiring.

AVAILABLE FOR D.C. OR A.C. POWER

The Type 429A is supplied for operation on either 28-volt D.C. or 110-volt A.C. 400-cycle current. D.C. or A.C. power supply occupies the same physical space interchangeably. The right-side illustration shows the Glideslope Receiver equipped for D.C. operation with dynamotor, and the left-hand photo as supplied for A.C. input. Thus it fits the requirements for all commercial, military, and private use.

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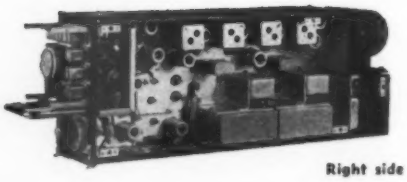
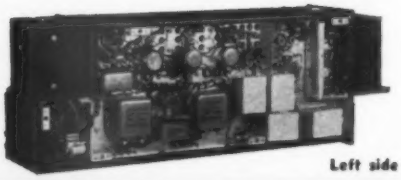


Right side



Left side

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AF TAKES INITIAL DELIVERY:

Raydist Traces Plane's Path With Pin-Point Accuracy

By WILLIAM D. PERREAULT

LATE last month (AMERICAN AVIATION, Feb. 26) the U. S. Air Force's All Weather Flying Division took delivery on the first of a series of new aircraft position determining systems manufactured by Hastings Instrument Co., Inc., of Hampton, Va. The system, known as Raydist, will initially be used to monitor other landing systems, both GCA and ILS, as basic test equipment.

Charles E. Hastings, president and founder of the company, is hopeful that Raydist may someday become the standard unit for guiding aircraft landings during marginal weather operations, not simply used as a device to monitor existing systems. Basis for his optimism is the proved accuracy of Raydist over other methods of position determination.

Accuracy is the prime requirement of such a system. Tests by the National Bureau of Standards show that Raydist is accurate to one part in 5,000 or about one foot in a mile. Applied to aircraft navigation this is extremely accurate. It is the type of accuracy which attracted to U. S. Air Force and Army generals, including Lt. General John K. Cannon, head of Tactical Air Command, to Newport News for the first formal demonstration of Raydist.

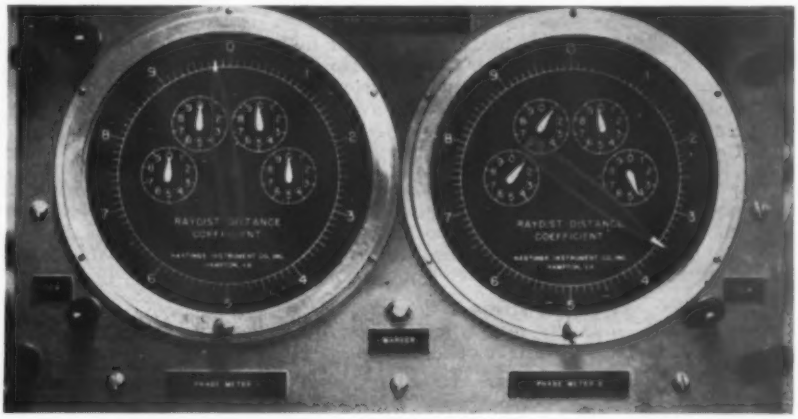
Hyperbolic System

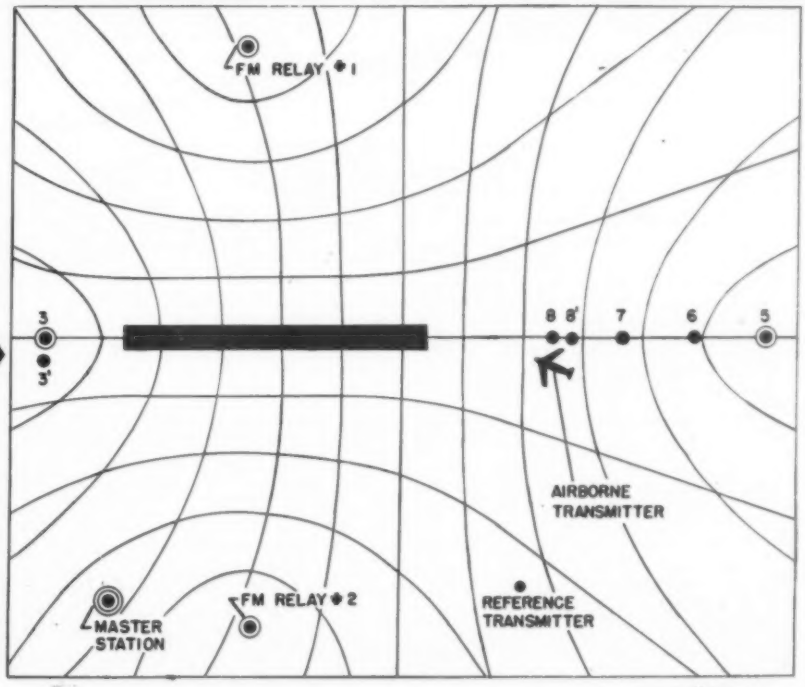
Technically, Raydist is a hyperbolic system of position determination. It is not the first application of hyperbolic systems to air navigation. Hastings' contribution is a matter of overcoming certain difficulties common to hyperbolic systems and developing a system which appears to be versatile in its applications.

Raydist will operate on any radio frequency, with 1 to 20 megacycles appearing as the most efficient range. The system demonstrated at Newport News operated on 9.160 megacycles and had a useful range of about 30 miles. The frequency used, power setting and other factors will determine range. In one proposed application, that of range-type guidance for a bomber into the target area, a spokesman said a 750-mile range could be achieved with accuracy within 2,500 square feet at the target.

As used for aircraft tracking, one aircraft at a time, Raydist requires a small transmitter in the airplane plus multiple transmitters and receivers on the ground. The airborne transmitter now in use weighs eight pounds but Hastings has successfully tested a 12-ounce airborne transmitter which will work equally well. This transmitter sends a continuous wave signal at 9.160 mc. frequency.

A reference transmitter on the ground (see drawing) transmits 9.160-mc. signals plus 400 cycles per second. These two transmitters, one airborne and the other on the ground, produce an audio frequency signal at each of the relay stations on the





PHYSICAL LAYOUT of the Hastings Raydist system is shown in this sketch giving the relative positions of the transmitters and other equipment used. Relay stations 1 and 2 sense the aircraft's position laterally from the runway, 3 and 5 provide distance information along the runway and 5, 6, 7, and 8 provide altitude data. The lines shown are hyperbolic lines of position radiating from the stations. By electrically measuring the aircraft's position with relation to these lines the Raydist system provides accuracies equal to one foot in one mile. Photo at top shows phase angle measuring meters. Each increment on the dials equals six inches of airplane movement.

TECHNICAL NEWS DIGEST

• **Higher standards for radio and navigation equipment** used on large transports, primarily those in the irregular air carrier group not covered by other existing regulations, would be required if the amendment to CAR Part 42 now under consideration by the Civil Aeronautics Board is adopted. The amendment would require that all such equipment be "approved" by CAA.

• **CAA medical men and engineers have developed** a ballistocardiograph, an improved instrument for detecting the development of heart disease. In tests of 300 subjects of selected age groups the CAA unit uncovered a number of cases of abnormal hearts not indicated with the regular electrocardiograph.

• **Thirty-five airline technicians** and manufacturer's representatives from U. S., Canada, France and Great Britain have been meeting in Montreal at IATA headquarters for the past two weeks formulating a program on coordination of frequencies for use with radio altimeters, airborne radar, etc., and reviewing radio telephony and navigation standards prior to the ICAO Communications Division meeting scheduled to begin April 24 in Montreal.

• **For the first time in the history of** the Federal Communications Commission an action has been initiated through the Attorney General and Federal District Court to stop a manufacturing concern from using a device which causes serious interference with aeronautical radio communications. Case involves the Yonkers Cabinet Co., Yonkers, N. Y. whose dielectric heater has interfered with U. S. Coast Guard on 7530 kilocycles.

• **A ceramic coating for metals and alloys,** said to withstand oxidation, corrosion, flexing, vibration, percussion and thermal shocks, has been announced by Elraco Engineering Co., 158 Fourteenth St., Hoboken, N. J. The manufacturer is offering to coat test samples with Elkote and return free of obligation.

• **A pressure vessel stressed to carry 200 gallons** of liquid nitrogen at 5,500 pounds per square inch pressure and at minus 340 degrees Fahrenheit has been developed by Research Welding and Engineering of South Gate, Calif., for the USAF. The stainless steel spherical chamber is for use in storage of liquid nitrogen used in USAF rocket-propelled aircraft experiments.

• **Fatigue life of aluminum alloys may be increased** manifold by prestressing prior to being used, according to a new report of the National Bureau of Standards. Tests, made on bare 24ST aluminum alloy sheet, showed as much as a 10 to 1 difference in life of regular versus prestressed sheets. The test showed a wide range of end results including cases in which fatigue life was actually shortened by prestressing. Results of tests are contained in Technical Report 1520 available from NBS at Washington 25, D. C.

• **Two new alloy steels, suitable for use in jet** engine parts subjected to high temperatures, have been announced by Crucible Steel Co. The alloys will conserve cobalt, nickel and columbium, all critical materials, according to Crucible.

• **A contract for the major overhaul of three** Douglas DC-4's for Aerovias Brasil has been awarded to Lockheed Aircraft Service, Inc. Work includes replacement of the Curtiss-Wright 9HD engines with Pratt & Whitney R-2000-11's.

• **A continuous process for the manufacture** of tetraethyl lead, as opposed to the batch process used since 1923, has been developed by E. I. du Pont de Nemours. First such plant, to be located at Deepwater Point, N. J., will have a capacity of about 50 million pounds of TE per year.

• **Automatic tracking on targets by coupling radar** devices to the computer of the Lear F-5 autopilot will soon be possible, according to William P. Lear, director of research and development with Lear, Inc.

ground. The phase of the signal produced depends on the system frequency and the position of the airplane with its transmitter.

Position Determination

The Raydist instrumentation is made up of phase meters (see photo) which measure the phase angles at audio frequency, a factor which Hastings considers very important. There is a direct relationship between phase angle as measured in this manner and the position or physical relationship of the aircraft and the fixed ground stations.

As can be seen in the photo, the phase meters are calibrated in small increments. A 360° change in phase angle, representative of one-half wave length, is only 55 feet. This means the 100 dial markings shown represent only about 6½ inches. In the demonstration panel shown, the altitude scale is not used but it is similar to these dials, and was in operation and checked out during the tests.

At Newport News the airborne transmitter was mounted in a Piper Cub. As the plane taxied away from the starting point toward the runway one of these meters wavered side to side following the wavering path of the aircraft on the ground. As the plane straightened out and made its way down the runway this left-right meter remained stationary and the other meter started to spin, clocking aircraft position along the length of the runway.

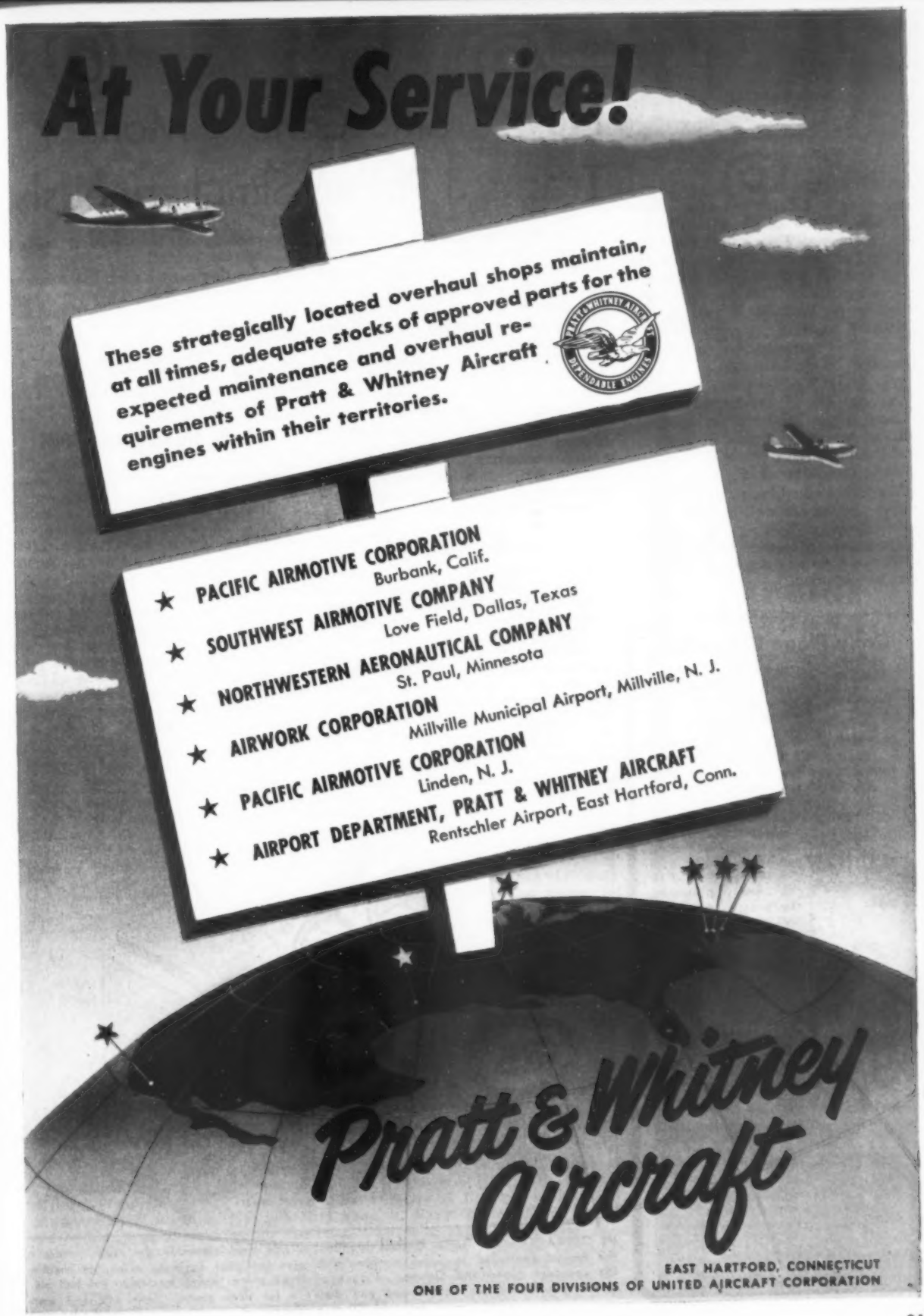
Records Small Movements

By fishtailing the Cub as it flew along the centerline of the runway on repeated passes the pilot showed that ground equipment readily recorded slight movements which would not have been noticeable on other systems. The pilot in the airplane did not have an indication of aircraft position in the cockpit, as he would have with the Instrument Landing System. This is not required for the present monitoring application of Raydist.

Hastings engineers say that data received at the ground stations can readily be fed into a computer or plotting board, telemetered to the pilot or used to control signals in the cockpit for the pilot's use. A suitable plotting board is now under development for the USAF.

Although the system as demonstrated was only for one aircraft, a system which could not be saturated is simply a matter of component arrangement. Locating the transmitters on the ground and a receiver in the aircraft, plus other allied changes, would accomplish this, Hastings says.

More detail on the test installation,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shown in the accompanying drawing, follows: Two relay stations (3 & 5) mounted at opposite ends of the runway, measure the aircraft's position along the runway. Another pair of stations at right angles to the runway centerline (1 & 2) measure the lateral position of the plane with relation to the runway. Four additional relay stations at one end of the runway in line with it are used to determine aircraft position. Each of these four stations (5, 6, 7, 8) is paired with station 3 for phase comparison purposes. The relay stations are small, portable devices.

The audio signals picked up by the relay stations are transmitted to the master station where phase comparison is made by means of wire or radio link. Both types of links were used in the demonstration system.

The hyperbolic lines forming around these stations are well defined in the accompanying drawing. By varying the number or location of these transmitters almost any degree of accuracy can be obtained.

Daily Plane Utilization

Domestic

		Nov.	Dec.
American ..	2 eng. pass. ..	5:07	4:51
	4 eng. pass. ..	8:23	8:21
	cargo	4:16	4:10
Braniff	2 eng. pass. ..	6:33	7:17
	4 eng. pass. ..	7:58	7:54
Capital	2 eng. pass. ..	6:17	6:47
	4 eng. pass. ..	7:37	7:22
	cargo	5:20	4:08
Caribbean..	2 eng. pass. ..	3:16	3:29
C & S	2 eng. pass. ..	8:33	8:37
	4 eng. pass. ..	7:10	7:44
Colonial ..	2 eng. pass. ..	6:11	6:13
	4 eng. pass. ..	5:14	5:14
Continental	2 eng. pass. ..	6:40	6:53
Delta	2 eng. pass. ..	6:41	6:37
	4 eng. pass. ..	5:42	7:09
	cargo	6:52	7:26
Eastern ...	2 eng. pass. ..	9:18	8:57
	4 eng. pass. ..	7:08	8:20
	cargo	:12	3:07
Hawaiian ..	2 eng. pass. ..	4:00	4:37
	cargo	2:11	2:25
Inland	2 eng. pass. ..	9:53	10:02
	4 eng. pass. ..	7:01	6:48
MCA	2 eng. pass. ..	5:51	6:07
National ..	2 eng. pass. ..	5:32	5:40
	4 eng. pass. ..	8:02	8:46
	cargo	2:59	1:40
Northeast ..	2 eng. pass. ..	5:48	6:01
Northwest..	2 eng. pass. ..	2:38	4:34
	4 eng. pass. ..	8:14	7:38
	cargo	4:17	5:07
Trans Pacific	2 eng. pass. ..	4:14	3:16
TWA	2 eng. pass. ..	5:07	5:25
	4 eng. pass. ..	7:22	7:41
	cargo	4:23	5:14
United	2 eng. pass. ..	4:52	5:01
	4 eng. pass. ..	7:22	7:19
	cargo	3:23	4:33
Western ...	2 eng. pass. ..	5:53	6:02
	4 eng. pass. ..	6:04	5:50

New Traffic Control Monitor Tracks 3 Planes Simultaneously

A new traffic control aid which automatically tracks three aircraft in the terminal area simultaneously and presents the controller with data on each plane's distance from the airport and its approach speed has been designed and built by Gilfillan Brothers, Inc., in collaboration with the U. S. Air Force's Watson Laboratory.

Known as the Automatic Traffic Control Monitor, the new unit is now at CAA's Technical Development Station at Indianapolis for a four-month evaluation. CAA is the official agency for evaluating terminal aids under the Air Navigation and Development Board program.

For Use With GCA

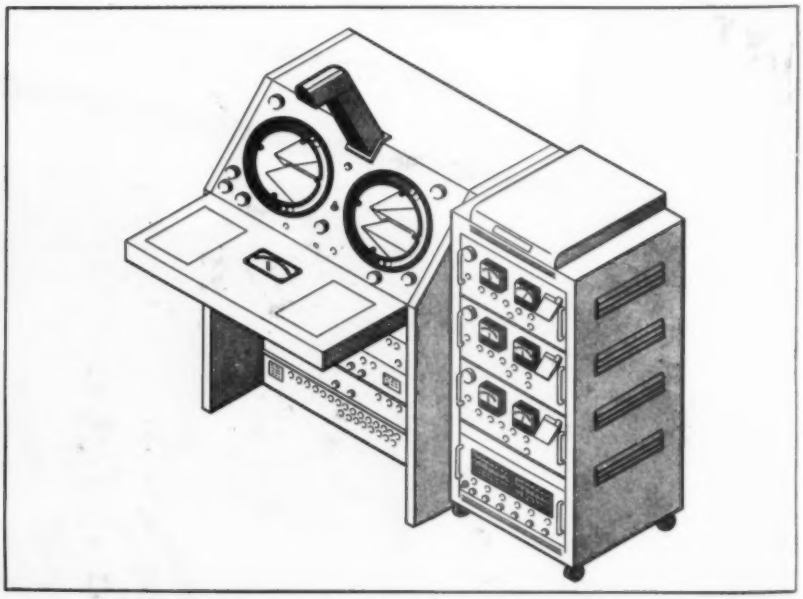
The automatic traffic control monitor is primarily for use in conjunction with radar ground controlled approach equipment. As can be seen in the accompanying drawing, the ATCM fits in a cabinet ordinarily positioned alongside the GCA control scopes. As a plane reaches a point about 10 miles from the runway, the ATCM starts recording its distance in miles from the runway and its approach speed, both critical factors in accurate control.

By setting controls on the monitor the controller can determine how close two successive aircraft can approach one another before an alarm sounds, warning the controller of the danger. That is, if one plane, because of its higher speed, tends to overtake another, the controller is automatically warned.

Alarm Signals Approach

Another alarm warns the controller when the plane nearest to the runway reaches a point at which it would be inadvisable to dispatch outgoing traffic. A memorandum pad is provided for use in recording aircraft identification as the plane approaches the runway and is tracked.

The entire Traffic Control Monitor is housed in a console 22½ inches wide, 19 inches deep and 47 inches high. Weight is 300 pounds. The unit was engineered, developed and produced by Gilfillan for under $12,000 in four months' time and is now in production. In production quantities the ATCM is expected to cost less than $4,500.



IN OPERATION the Traffic Control Monitor will be used alongside the radar scopes of the ground controlled approach equipment to give the pilot a simple means of checking the approach speed and distance of each of three planes being tracked. An individual meter is provided for both speed and distance for each plane. Unit will cost about $4,500 in production.

Extra Section

By William D. Perreault

MOST men in aviation swear they are going to "retire" to the farm. This month a man who has always made good his promises, **C. F. (Charlie) Watts,** is doing just that. Charlie started in aviation in 1918 in St. Louis with Gates Flying Circus, later did a hitch in the Navy as mechanic and part-time flier, then joined American Airlines in 1929. In 17 years with American, Watts worked his way from mechanic to a responsible superintendent's position. Joining Colonial Airlines in 1946, where he has served as director of maintenance and overhaul ever since, he guided CAI's M&O departments through the painful postwar period, led in standardization of equipment, initiation of its four-engine equipment service, etc. Having worked with Charlie for eight years, and knowing him to be as to-the-point as he is fair, I join with Colonial's management and his friends throughout the industry in wishing him well in his new venture. His 92-acre farm will probably keep him and Mary too busy to write but their new address is: C. F. Watts, Route 7, Donaphan, Mo.

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During 1950, United Air Lines awarded some $29,000 in cash to employes for suggestions which saved UAL an estimated $282,000. Four out of five of the more than 5,000 suggestions submitted were adopted with the average award $20. The year also saw UAL's largest award in the 11-year history of the suggestion system: $2,545 to E. L. Griggs, a tool designer at UAL's San Francisco base, for an improved method of maintaining aircraft cylinders.

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Recently we reported on the high cost of maintaining cabin supercharging equipment as experienced by TWA with its Lockheed Constellations. Specifically, TWA reported a cost of about 2c per airplane mile for cabin pressurization. More encouraging is the word from Pan American Airways this week on their success with engine-mounted pressurization equipment on which they are standardizing. CAA has now approved 2,000-hour overhaul periods on PAA's Stratos S60-5 cabin supercharger. Representatives of Stratos, a division of Fairchild Engine and Airplane Corp., estimate the new units will pay for themselves through savings over a 15-month period. American Airlines, Air France and Avianca are also using the Stratos unit.

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All the comforts of home? No, the new Westinghouse Electric Corp.-built A-3 lifeboat isn't quite that good but its quite an improvement over earlier boats. The A-3, developed by the Air Materiel Command, features a five-frequency receiver controlled by a transmitter in the Boeing SB-29 which drops the all-metal, 15-passenger boat. After the boat is lowered by a 100-foot parachute, the parachute is automatically jettisoned, sea anchor set, stabilizing fins released, and the four-cylinder engine started. A controller in the mother plane steers the boat to the vicinity of the survivors. Fuel and equipment for an 800-mile "cruise" is provided.

•

While the flying boat has pretty well disappeared from airline service in continental U. S., performance of the jet-powered Convair P5Y and Britain's Princess flying boat have stirred renewed interest among boat enthusiasts. Meanwhile, Martin's JRM Mars, in Navy service in the Pacific, are making a good showing for the boats. Three of these JRM's have been making 6.2 trips a week on the 2,300-mile flight from Alameda, Calif., to Honolulu. On several occasions the Mars has landed in Honolulu, been unloaded, engines checked, gassed, reloaded and on the way back within four hours.

2 in 1

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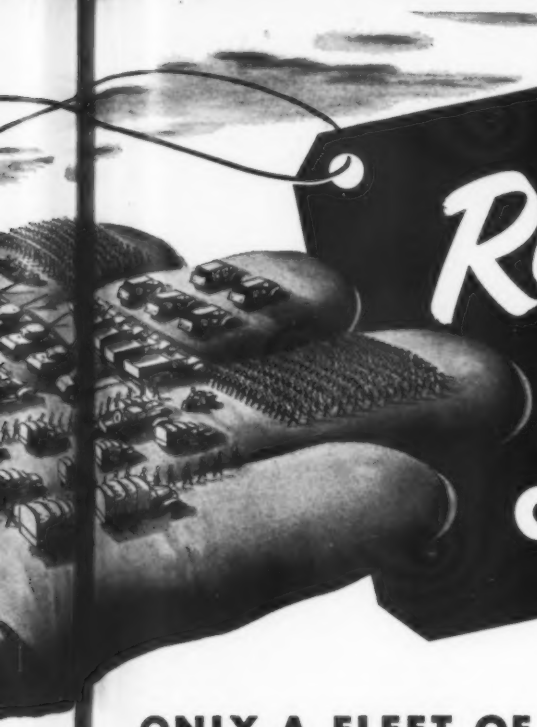

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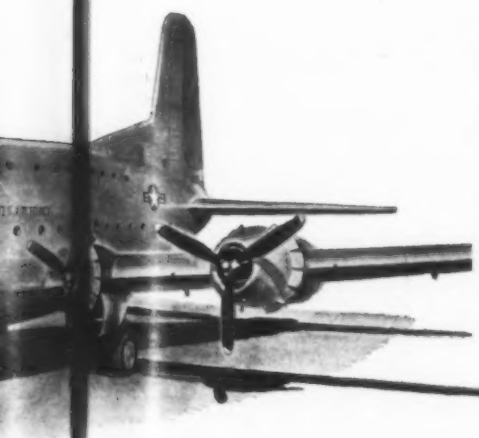
A fleet of these new Douglas transports could airlift all the personnel and equipment of an entire 16,000-man airborne division from Boston, Mass., to Brest, France, *in a single flight!*

Designed to meet the vital need for aircraft to support global operations, the C-124 has been ordered in quantity by the armed forces. Already a certain number are in active service.

Over five years of careful planning and development work by Douglas and the military have made possible this revolutionary airplane. Such pioneering is typical of Douglas engineers, who are today turning their attention to advance-type combat planes with jet, rocket and turbo-prop propulsion. Douglas Aircraft Company, Inc.

Skilled engineers and technicians find Douglas a good place to work!



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New Capital Navigation Light Triples Plane Visibility Range

There is an acknowledged shortcoming to the navigation lights now used on transport aircraft. In marginal weather conditions, with stacking of aircraft and other close tolerance operations, improved lighting is desirable. The whole industry has been giving the matter serious study in the past year. Only last month CAA amended its current regulations to permit experimentation with flashing frequencies for these lights.

Industry meetings have evaluated the pros and cons of changing the flashing rates or of changing the color of the light lenses. United Air Lines has experimented with a light mounted on the top of a tail fin, another effort has been devoted to a special navigation light mounted in an automatic direction finder shell. CAA has used a light mounted in the tail and executing a conical sweep at fixed rates of movement.

Now Capital Airlines' radio engineer, William S. Smoot, has come up with a light which shows considerable promise. Mounted over the opening normally used for the astrodome on the Douglas DC-4, the Capital light is making quite an impression among traffic controllers and operations personnel. At Washington National Airport controllers have picked up the sweeping light beam twenty miles away from the field as compared to about six miles for conventional lights. Actual distances were checked against radar readings on the WNA surveillance units.

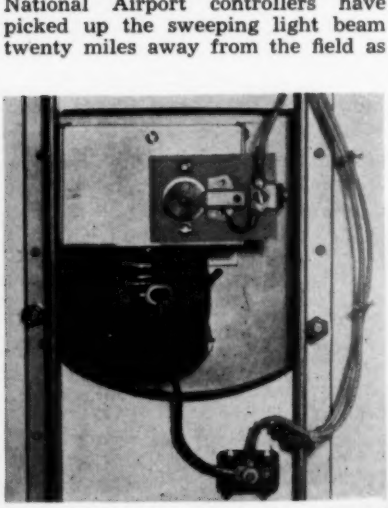
Idea from Police Car

Smoot, returning from a CAA-sponsored industry meeting on the navigation light problem, spotted a Federal Enterprises light used on top of a police car. It looked good and a check with the Federal Enterprises Company in Chicago was enough to get a unit for service test. The two sealed-beam lights are mounted back-to-back on a vertical shaft extending through an opening in the astrodome cover. An amber dome covers the lights. A small motor (see cut) mounted inside the airplane and controlled by a switch in the cockpit drives the lights at 50 revolutions per minute or 100 sweeps per minute for the dual assembly.

First installed in December, the light installed by Smoot has attracted wide interest. The plane used for the tests is now operating on charter work with the USAF flying enlistees to Lackland Air Force Base in Texas. Over 100 hours have been logged with the light operating and to date it has been very satisfactory.

Tests have shown it would be advisable to mount the light under the fuselage at the trailing edge of the wing to minimize the "halo" effect in fog which can disturb the pilot. This will require a rework of the drive assembly bearings to permit a "hanging" installation contrary to the original light design but this is now under development.

As now installed the whirling navigation light circuit is completely separate from the regular circuit. Complete weight of the Capital Airlines installation is twenty-five pounds.

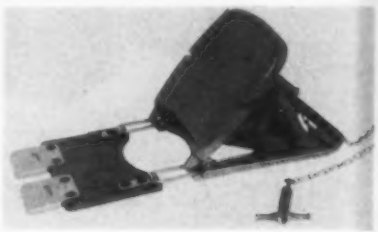


TWO VIEWS of Capital Airlines' experimental navigation light are shown here with the man responsible for the installation which is attracting industry-wide attention, R. Smoot, electrical and communications engineer at Capital. Right photo shows the external view of the rotating lights while the other (above) shows the detail inside the plane where the drive motor is located.

NEW PRODUCTS

Wheel Chock

A new type of metal wheel chock for locking aircraft wheels in place during ramp parking or ground run-up has been introduced by Pyrene Manufacturing Co. The chock is made in two major parts, a rubber and metal wheel shoe and a collapsible ramp. The ramp consists of two spring-loaded metal frames hinged together and forced into the extended position by downward pressure on the foot lever. As the ramp is positioned in the extended position shown, two claws on the ramp hinge points firmly lock the ramp to the flat shoe which fits under the aircraft wheel, locking the chock in place. A 12-foot chain is provided with which ground personnel can pull sideways, collapse the ramp and pull it out of the way. The new Pyrene collapsible wheel chocks, which have been tested to withstand a thrust of 10,500 pounds, are available for wheels up to three feet in diameter and a larger size for wheels

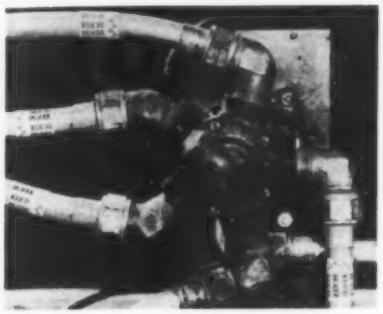


over three-foot diameter will be introduced later.

When contacting **Pyrene Manufacturing Co.**, 560 Belmont Ave., Newark 8, N. J., please mention AMERICAN AVIATION.

Line Markers

Pressure sensitive adhesive markers which can be applied without moistening are being marketed by E-Z Code Division of Western Lithograph Co. for use on fuel, oil and hydraulic lines. The E-Z Code fluid line markers are avail-

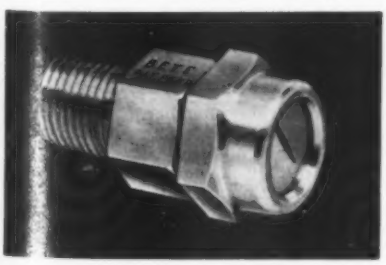


able in standard symbols and codes conforming with international AND-10275 as well as AAF-27643 in sizes and print specifications suitable to the purchaser. The manufacturer claims they will not pop, peel or curl even in extreme changes in heat and humidity.

When contacting **E-Z Code Division of Western Lithograph Co.**, 600 East Second St., Los Angeles, Calif., please mention AMERICAN AVIATION.

Fog Nozzle

An improved line of flat spray or fan nozzles designed to give more uniform coverage with less waste of spray has been introduced by Bete Fog Nozzle, Inc. Side jets or "horns" containing coarse droplets have been eliminated and spray pattern made heavier in the center, according to the manufacturer. The Bete "F" series nozzles include 13 discs made of stainless steel with flow rates of 1/10 to 10 gallons per minute and spray angles of 50 to 90 degrees. All discs are interchangeable in a brass base and cap assembly with ¼-inch



male pipe connection. Built-in, removable strainers are available for the smaller nozzles.

When contacting **Bete Fog Nozzle, Inc.** Greenfield, Mass., please mention AMERICAN AVIATION.

Work Ladder

A double-staired ladder with welded tubular steel frame and expanded steel steps is now available from the Bally-

400-Cycle Aircraft Alternators Tested with Precision Load Bank

The growth of alternating current systems in aircraft is being spurred by the needs of giant military airplanes for compact, versatile communications, navigation and control equipment. Greer Hydraulics keeps pace with this development by designing and manufacturing test machines to meet these new demands.

One of Greer's new Alternator Load Bank Testers, shown above, can load test aircraft alternators of the four-wire, 400-cycle, 120/208 volt, three-phase type with power ratings up to 60 kw or 40 kvar. It can be used for acceptance, post-overhaul and life testing as well as determining the operation performance of alternator components. For complete details, call or write Greer today! There's no obligation. Ask for Specification Sheet LB-1.

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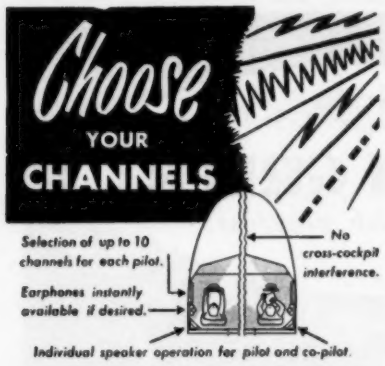

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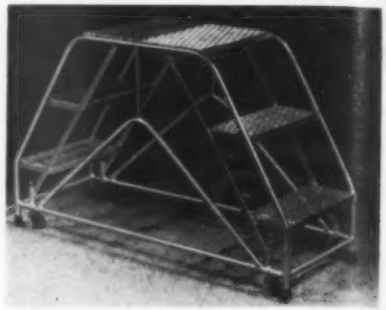
more Company. Normally the Ballymore ladder rolls freely on swivel-castered wheels but when the weight of a person is on it the spring mounted casters deflect and rubber-tipped legs



hold it firmly in place. The ladder is 30 inches high, 17½ inches wide and 48 inches deep. The top step has 20-inch tread while others have seven-inch tread.

When contacting **Ballymore Company**, 139 Pennsylvania Ave., Wayne, Pa., for more information or price on the Model 3-SA ladder, please mention AMERICAN AVIATION.

Quick Release Fitting

A quick-release end fitting for straps permitting instantaneous jettisoning of loads has been announced by Gordon D. Brown and Associates. The new unit, for use in conjunction with Brown tie-

down equipment for tying down large and small items of air cargo, consists of pivoted toggles which mechanically lock in the holding position. Instantly releasable by merely lifting a convenient release or by remote operation through mechanical, hydraulic or electrical controls.

When contacting **Gordon D. Brown & Associates**, 407K Commercial Center St., Beverly Hills, Calif., please mention AMERICAN AVIATION.

Vacuum Test Chamber

A vaccum test chamber, complete with pump and direct reading altitude gage, capable of simulating any altitude up to 60,000 feet, is now being marketed by Tenney Engineering Inc. The compact chamber uses a drum head of welded construction, flanged circular door of heavy glass complete with sealing ring and latches for vaccum-tight fit. A one-inch utility port is provided for electrical leads. Inside dimensions are 19½ inches diameter by 30 inches, plus space in the drum head. Available with pump in unit or as a table-top model consisting of a chamber only with vaccum pump unmounted for installation under bench.

When contacting **Tenney Engineering, Inc.**, 26 Avenue B, Newark 5, N. J. please mention AMERICAN AVIATION.

R. M. **Hollingshead Corp.**, manufacturers of the Whiz line of packaged aircraft chemicals, has appointed **Air Associates, Inc.**, of Teterboro, N. J., to handle national distribution of the line through its warehousing branch-operations . . . **Piedmont Aviation, Inc.**, has signed a lease agreement with the Norfolk Port Authority for the operation of a full-scale aircraft sales and service and wholesale aircraft parts distribution center at Norfolk Municipal Airport.

A. W. Whitaker, distributor of aircraft and parts and supplies, has consolidated company facilities in the Portland, Ore., area at a new location on Pearson Airpark, Vancouver, Wash. . . . **Berea Rubber Co.**, Berea, Ohio, subsidiary of **Parker Appliance Co.** of Cleveland, will start immediate construction on a $550,000 precision rubber molding plant.

Wilmer T. Spicer has been named chief engineer of maintenance services by **Bendix Radio Division** of Bendix Aviation Corp., and will be responsible for the administration of the technical publications and field engineering departments.

W. G. Miller, formerly assistant works manager, has been named manager of manufacturing for **Westinghouse Electric Corp.'s** Motor and Control Division . . . **Airsupply Co.** is opening a Seattle office and will be engineering and sales representative of **AiResearch Manufacturing Co.** in the Pacific Northwest.

General Ticket Co., licensed and bonded transportation ticket printing division of Cullom & Ghertner Co., has elected **A. W. Lyell**, assistant vice president in charge of production at the Nashville plant, **W. M. Robinson**, assistant vice president-production at the Atlanta plant, and **R. T. Vaughn** as secretary.

William Cranford has been appointed to the sales engineering staff of **Cannon Electric Development Co.**, Los Angeles, Calif.

Greer Hydraulics, Inc., has started construction of a new plant adjoining its present facilities in Brooklyn, N. Y., which will provide an additional 400,000 square feet of engineering, manufacturing and laboratory space. Expected completion date is May 15.

Rubie C. Riggs, manager of aeronautical and export advertising for **The B. F. Goodrich Co.**, recently completed 20 years with the organization . . . **Edwin H. Howell** has been appointed special representative of the **General Electric Co.'s** Apparatus Department in Washington, D. C. Howell is succeeded as manager of sales of the Meter and Instrument Divisions at Lynn, Mass., by **Donald E. Craig. Henry V. Erben, Hardage L. Andrews**, and **Roy W. Johnson** have been elected executive vice presidents of GE and will be headquartered in Schenectady . . . General Electric Co. will construct a $15,060,000 one story steel frame structure with an attached two story office building at Utica, N. Y., for the manufacture of electronic equipment. The buildings, providing about 338,000 square feet of floor space, will employ 2,500 and will be operated by the Commercial Equipment Division.

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There are dozens of things to do in the next few minutes. Fuel, express, freight, mail, luggage, meal service, mechanical inspections . . . these are just a few. You're conscious of great activity. But as you watch you see no confusion . . . observe no waste motion.

You see efficiency, thoroughness and consideration for the passengers. You see the Mainliner take off on time. Then it comes to you that here are many of the qualities that make United such a fine and dependable way of travel.

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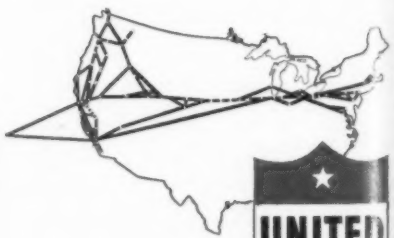

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ROUTE-TYPE FREQUENCIES CUT:

Defense Role for Non-Skeds Under New CAB Policy

By WILLIAM V. HENZEY

THE non-scheduled airline industry will become an instrument of defense in the very near future but should offer little or no threat to revenues of the certificated lines from now on, according to a new Civil Aeronautics Board policy.

Generally, the Board has granted a blanket exemption permitting all authorized non-skeds, those holding letters of registration or similar license, to perform unlimited interstate, overseas, and foreign air transportation pursuant to military contracts. Initially, the exemption is valid for six months.

Also, any two or more non-skeds acting collectively, may arrange for the transportation of uniformed military personnel in groups when such personnel are traveling at their own expense to or from a designated military base, and when the arrangements are made with military authorities. This authority, likewise, is valid for six months.

Further, as a means of expediting such deals between the military and the non-skeds, CAB has given its OK to non-sked associations which may act as liaison agents.

Emphasis on Charters

All of these concessions are designed to encourage large irregulars to direct their energies into the charter type activities which the defense effort is demanding.

However, as a means of assuring that these carriers will discontinue operations which, since 1947, have been seriously competitive with certificated airline services, and will devote their time to military charter operations, CAB issued a new regulation to become effective April 6.

It sharply restricts large irregular carrier operations between designated heavy traffic points to a point which the non-skeds claim would force them out of business immediately, if the military field were not available.

The regulation was first proposed in June, 1950. Subsequently, public hearings were held and all interested parties were afforded an opportunity to air their views.

Limits Hi-Density Runs

As promulgated in final form, it prohibits non-scheduled operations in excess of three flights every four weeks between:

- New York and Miami, Los Angeles, San Francisco, Chicago, and Detroit;
- Chicago and Los Angeles, San Francisco, Seattle, Washington, and Miami; and
- Los Angeles and San Francisco.

Between all other points, the limit for a four-week period is eight flights.

The regulation applies specifically to 62 large irregulars whose applications for authority to continue operations under individual exemptions have not yet been acted on finally by the Board. Eleven other non-skeds which, in the past year, have been granted individual exemptions to continue operating, are subject to the same operating restrictions, however, under the terms of their individual exemptions.

Thus, CAB maintains it is simply subjecting all large irregulars, those who have been approved and those awaiting action on their applications for individual exemptions, to the same operating restrictions.

62 Applications Remain

Meanwhile, however, the Board plans to dispose of the remaining 62 applications as rapidly as possible and has warned those lines which have operated so-called "route-type" services in violation of the Act that their applications will be denied.

Since the broad authorizations made available for military charter operations apply only to non-skeds holding letters of registration or individual exemptions, this means the field will continue to be gradually narrowed.

The Board has been disposing of these applications on an average of seven a month since the machinery for handling them was set up in May, 1950. Of this seven, one is usually approved, three are denied finally and the lines put out of business, and three are denied tentatively with operating rights remaining intact usually until after public hearings are held.

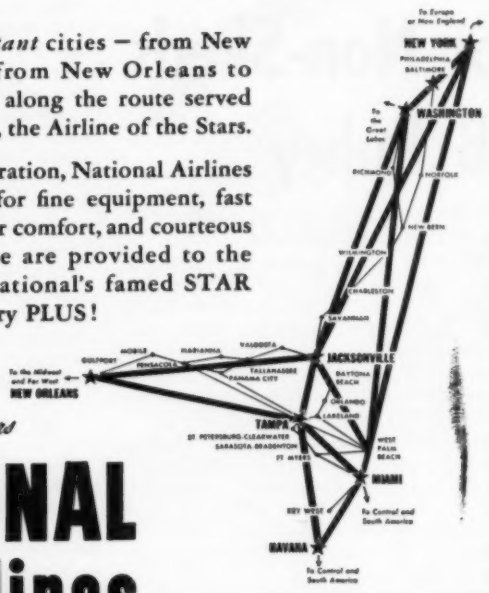
At this rate, the non-sked industry,

Wiggin's Dove—The reported plans of Wiggins Airways to buy de Havilland Doves has materialized and the company now expects spring delivery on two of the twin-engined, ten-passenger planes. Shown above are internal and external photos of the Dove. More than 300 Doves are in operation throughout the world and some 24 foreign airlines are using them. Dimensions include a wing span of 57 feet and length of 39 feet. Empty weight is 5,657 pounds, gross weight 8,500 pounds. Powered by two Gipsy de Haviland Gipsy Queen engines rated at 345 horsepower each. Wiggins has an option for several additional planes.

33 Cities and 16 years...

Thirty-three *important* cities – from New York to Miami...from New Orleans to Havana, Cuba – lie along the route served by National Airlines, the Airline of the Stars.

In its 16 years of operation, National Airlines has become *known* for fine equipment, fast flying time, passenger comfort, and courteous service. *All* of these are provided to the *highest degree* in National's famed STAR flights – DC-6 Luxury PLUS!



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as such, would survive at least through 1952.

But with the new regulation in effect, the future of the majority of these lines depends almost solely on the duration of the present national emergency. If it extends beyond six months, it is almost certain that CAB will extend the blanket exemption for military charters for as long as necessary.

11 Granted Exemptions

On the other hand, if it should expire in six months or less then most of the non-skeds would have to fold because, being dependent on revenues from air transportation, they could not economically hope to survive under the tighter restrictions being imposed by the Board.

Typical of the non-skeds which are certain to be around for years to come are the eleven which have been granted individual exemptions. Largely, they are of the fixed-base operator type, they have not operated "route-type" services, and they do not derive their main income from air transportation revenues.

The role of the large irregular carrier in the air transportation industry, CAB says, is two-fold—innovation and supplemental service. It does not include the performance of route-type services. In normal times, this type of carrier is free to seek out new fields of exploitation. In the present period of national emergency, however, the role of innovation is subordinate, and the services to be concentrated on must be supplemental to charter services provided the military by certificated carriers.

Thus, the period of severe competitive non-sked pressure on the scheduled carriers appears to be at an end. It may resolve itself into a period of cooperation for a limited time.

Following is a list of non-scheduled air carriers and their current status in CAB proceedings on exception applications:

Exemption Applications Approved For Two Years

American Air Export & Import (Miami Springs) (Valid through 11-10-52).

American Flyers (Fort Worth) (Valid through 6-14-52).

Capitol Airways (Nashville) (Valid through 5-25-52).

Johnson Flying Service (Missoula, Mont.) (Valid through 5-25-52).

Paul Mantz Air Service (Burbank) (Valid through 11-20-52).

Quaker City Airways (Philadelphia) (Valid through 8-1-52).

Queen City Flying Service (Cincinnati) (Valid through 8-29-52).

Proof Positive— With this tiny pedometer strapped to her ankle, United Air Lines Stewardess Jean Goodnight went about her normal duties on the Boeing Stratocruiser as it winged its way from Los Angeles to Honolulu. On the 2,257-mile flight Jean made some 23,760 steps, covered four and one-half miles in 9½ hours.

Remmert-Werner (St. Louis) (Valid through 12-8-52).
S.S. W., Inc., (Concord, Calif.) (Valid through 12-29-52).
Stewart Air Service (Los Angeles) (Valid through 12-19-52).
The Unit Export Co. (Miami) (Valid through 2-16-52).

Exemption Applications Dismissed or Denied Finally

Air America (Los Angeles).
Airborne Transport (Miami Springs).
Brinckerhoff Flying Service (College Park, Md.).
Coastal Airlines (Portland).
Consolidated Air Lines (Seattle).
E. E. Saldana (San Juan).
Golden Airways (Manhattan Beach, Cal.).
Golden North Airways (Fairbanks).
Hardy Aviation (Waynesboro, Pa.)
"Harrington's," Inc., (Cleveland).
Inter-American Airways (Miami Springs).
Mt. McKinley Airways (Anchorage).
Nu-Way Air Express (New York).
Oswald Alaska Airlines (Tacoma).
Pacific Alaska Air Express (Seattle).
Parr Air Services (Philadelphia).
Reg. L. Robbins (Houston).
Samoan Area Airways (Honolulu).
Southern Air Express (Clearwater, Fla.).
Standard Air Lines (Long Beach).
State Airlines (Charlotte, N. C.).
Totem Air Service (Seattle).
Transair, Inc., (St. Petersburg).
Viking (Burbank).
Virgin Island Air Service (Miami)

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Exemption Applications Tentatively Denied—Awaiting Action on Appeals

Aero Finance Corporation (Miami).
Air Cargo Express (Teterboro).
American Air Transport (Miami Springs).
Argonaut Airways Corp. (Miami).
Associated Airways (Burbank).
Continental Charters (Miami).
Cook Cleland Catalina Airways (Willoughby, O.).
Freight Air, Inc., (Miami Springs).
General Airways (Portland).
Hemisphere Air Transport (New York).
Kesterson, Inc. (Nashville).
Los Angeles Air Service (Los Angeles).
Miami Airline (Miami).
Missouri Airways (St. Louis).
Modern Air Transport (New York).
New England Air Express (Teterboro).
Peninsular Air Transport (Miami Springs).
Regina Cargo Airlines (Brooklyn).
Robin Airlines (Burbank).
Skyways International (Miami).
Sourdough Air Transport (Fairbanks).
Strato-Freight, Inc., (Windsor Locks, Conn.).
Trans-National Airlines (Long Beach).
U. S. Aircoach (Long Beach).
World Airways (New York).

Large Irregulars Awaiting Action on Exemption Applications

Aerovias Sud Americana (St. Petersburg).
Airline Transport Carriers (Burbank).
Air Services, Inc., (Newark).
Air Transport Associates (Seattle).
All-American Airways (Miami).
Arctic-Pacific, Inc., (Seattle).
Arnold Air Service (Seattle).
Arrow Airways (Burbank).
Associated Air Transport (New York).
Aviation Corporation of Seattle (Seattle).
Blatz Airlines (Los Angeles).
Caribbean American Airlines (Miami).
Central Air Transport (Miami).
Coastal Airlines (New York).
Coastal Cargo Co. (Teterboro).
Conner Air Lines (Miami Springs).
Currey Air Transport (Galesburg, Ill.).
Economy Airways (New York).
Federated Airlines (New York).
Great Lakes Airlines (Burbank).
Meteor Air Transport (Teterboro).
Monarch Air Service (Chicago).
Nationwide Air Transport Service (Miami Springs).
Ocean Air Tradeways (Wildwood, N. J.).
Overseas National Airways (New York).
Oxnard Sky Freight (Burbank).
Pearson Alaska, Inc. (Burbank).
Royal Air Service (Oakland).
Seabord & Western (New York).
Skytrain Airways (New Orleans)
Southern Air Transport (Miami).
Standard Air Cargo (San Diego).
Trans-Alaskan Airline (Seattle).
Trans-American Airways (Burbank).
Trans Caribbean Air Cargo (New York).
Transocean Air Lines (Oakland).
Twentieth Century Air Lines (Charlotte, N. C.).

First Delivery—United Air Lines has taken delivery on the first of fourteen Douglas DC-6B's which it has on order with Douglas Aircraft. This is also the first of the DC-6B series aircraft to be delivered to any airline. The DC-6B is five feet longer than the original series now operated by United. Donald Douglas, Sr., right, is shown accepting a check for $1,000,000 from UAL's J. A. Herlihy, vice president of operations.

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Leon Womble, Manager
in MONTGOMERY
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Homer Spiva, Manager
Executive Offices: Atlanta
Carling Dinkler, President
Carling Dinkler, Jr., Vice Pres. and Gen. Mgr.

Over the Counter

Sales Promotion

AMERICAN Airlines, which recently inaugurated the "Million-Air Holiday" sales plan, states that 12 more business firms have signed up. Under the plan, AA sells firms a package deal which includes travel as prizes for use in sales contests. Biggest buyer so far has been Squibb Co., which will send 50 winners and their wives on Mexican tours.

All American Airways is in the midst of its biggest interline sales contest, being staged in cooperation with **Colonial, American, National** and **British Overseas.** Managers of the seven stations selling most interline business on these four lines will receive three-day all-expense trips as prizes. Colonial is furnishing trips for two winners to Bermuda, AA two to Mexico City, BOAC one each to Jamaica and Nassau, and NAL one to Havana. Contest ends Mar. 31.

Capital Airlines is out with a very attractive direct mail piece ("Fly the Finest") advertising its Constellation service. . . . **Pioneer Air Lines** is plugging interline sales with an unusual series of interline bulletins. One features a puzzle in which you try to push a nickel through the "O" in Pioneer on a card (we won't give away the answer). . . . **Central Airlines** is making good use of all available space on its timetable. In addition to family plan, timetable features list of all Air Force, Army and Navy stations along Central's routes.

Philippine Air Lines is using a weekly newsletter in Chinese to promote sales in the Orient. It appears in a plastic stand and is displayed on counters of all leading Chinese hotels and restaurants. It's complete with cartoons showing the comforts of PAL service.

Traffic and Sales Offices

TRANS WORLD Airlines has opened a traffic and sales office in Munich at 16 Ottostrasse, Bernheimerhaus. **Claus Franz-Hollman,** formerly TWA city sales supervisor in Frankfurt, is in charge . . . TWA has moved its Calcutta, India, office to 23 Park St. . . . **United Air Lines** shortly will open a new office in Sydney, Australia, to cover sales, informational and public relations activities. Heading the office will be **Henry R. Holdridge,** formerly with UAL's Hartford, Conn., sales staff. . . . **The Flying Tiger Line** has opened a sales office in Denver, with **George Zettler** as air freight sales manager.

Traffic and Services

CHICAGO & SOUTHERN Air Lines has increased Constellation service to two round-trips daily Chicago-New Orleans. Flights are in addition to C&S's Chicago-Houston Connie trip. Company has now taken delivery on five of six Connies on order and expects last one in early June. . . . **Pan American World Airways** has advanced schedules of its northbound Constellation flights from Sao Paulo and Rio de Janeiro to make connections at Caracas, Venezuela, with Chicago & Southern's Constellation trips which continue to Havana, New Orleans, Houston and Chicago. Only change of planes required is at Caracas.

Sell-and-record space control plan similar to that used by trunk airlines has been adopted by **West Coast Airlines.** Immediate confirmation of reservations to and from any WCA route point is now possible, and through cooperation with **Southwest Airway** at Medford the same service can be offered for space requested between Medford, Eureka and Crescent City, Calif. WCA hopes to work out same plan with five other connecting carriers.

All American Airways is issuing space-available passes to former employes now on active duty with the military services, for use during military leave. . . . **Philippine Air Lines** has effected a total of 58 interline traffic agreements with U. S. and foreign airlines since start of its international service in August, 1946. . . . **British Overseas Airways Corporation** has initiated service to Switzerland by adding a stop at Zurich on its two weekly Middle East flights.

Southern Airways on Mar. 15 transferred Columbus, Miss., operations from Columbus Air Force Base, which AF is closing to commercial flights, to Starkesville Airport, 25 miles west of Columbus . . . **The Flying Tiger Line** has established overnight air freight service between New York and Chicago, supplementing its six daily transcontinental schedules operating between the same points. Nightly departures are between 10 p. m. and midnight from both terminals.

Air Express Division of Railway Express Agency has announced additional direct air express service, using **Aero Transportes S. A.,** between U. S. and Canada on the one hand and 33 Mexican cities on the other. Aero Tranportes connects with U. S. lines at Brownsville, Tex. REA points out that shipments to Mexico must have three copies of a commercial invoice, four copies of the shipper's export declaration and a shipper's letter of instructions.

—ERIC BRAMLEY

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1950 Domestic Traffic Sets New Record

U. S. airlines—domestic trunk, local service and international—showed sharp traffic gains in 1950 which were comparable to or greater than those in the record year of 1949. The accompanying figures for 1950 were taken from reports filed with the Civil Aeronautics Board and show the individual carriers' totals for revenue passenger-miles and cargo ton-miles as compared with 1949 and the per-cent of change.

Domestic Trunklines

Fifteen domestic trunklines achieved a record 7.8 billion passenger miles last year which was an 18.8% increase over the year before's traffic. American Airlines continued to lead the way in flying more passenger miles than any other single carrier with a total of 1,745,433,000, an increase of 15.7% over the 1,508,058,000 the year before. National Airlines and Western Air Lines were the two biggest gainers in percent of increase in revenue passenger miles, registering gains of 51.5% and 49.6%, respectively. These same two carriers were the leading carriers in percent increase at the end of the third quarter in 1950, only their positions were reversed. Western led National by 3% at that time but National continued the trend with increased Florida traffic whereas Western held steady.

Total cargo ton-miles flown by the domestic trunks was 151,146,075, an increase of 23% over the year before. Biggest gainer in cargo ton-miles flown was National, up 78.2% or 1,644,922 miles more than in 1949, with Delta Air Lines next with an increase of 62.6%.

Local Service Airlines

Local service airlines followed the upward trend in passenger revenue miles and showed an increase of 46.2%. The sixteen carriers, some of them completing their first full year of operation in 1950, flew a total of 199,054,000 revenue passenger-miles compared with 136,151,000 in 1949. Notable gains in passenger miles were reported by All American, Wisconsin Central, Robinson, Piedmont, Pioneer and Trans-Texas. Total cargo ton-miles for the local service group were up from 755,475 in 1949 to 1,305,250 last year, a gain of 72.9%.

International

U. S.-flag international airlines reported total revenue passenger miles of 2,279,364,000 in 1950. This was nearly 10% greater than the 2,072,749,000 passenger miles flown during 1949. Cargo ton-miles for the year were up from 57,343,695 to 66,641,394, an increase of 16.2%. Despite the substantial overall increase in cargo ton-miles by the group several of the individual carriers showed a sharp decline in cargo traffic. The decrease in the cargo ton-mile figures of these carriers could be attributed to the diversion of cargo equipment to the Pacfic air lift.

U. S. Airline Traffic—1950

Domestic Trunklines

Carrier	Revenue Passenger-Miles (000 omitted) 1950	1949	% Change	Cargo Ton-Miles‡ 1950	1949	% Change
American	1,745,433	1,508,058	15.7	42,786,133	37,423,965	14.3
Braniff	218,578	199,628	9.4	3,020,604	2,007,383	50.4
Capital	429,729	361,700	18.8	10,875,441	9,198,015	18.2
C & S	118,131	107,438	9.9	1,623,332	1,166,946	39.1
Colonial	49,417	50,366	—1.8	194,757	179,751	8.3
Continental	74,288	66,809	11.1	613,706	469,845	30.6
Delta	285,384	209,757	36.0	4,238,981	2,603,289	62.6
Eastern	1,229,428	998,113	23.1	14,142,184	12,674,652	11.5
MCA†	106,446	100,284	6.1	789,665	570,683	38.3
National	256,083	169,025	51.5	3,518,755	1,973,833	78.2
Northeast	71,127	62,278	14.2	485,857	341,088	42.1
Northwest	513,088	421,578	21.6	9,255,242	6,301,111	46.8
TWA	1,118,184	938,702	19.1	20,225,758	16,914,611	19.5
United	1,424,848	1,275,218	11.7	37,250,072	30,131,127	20.3
Western*	233,126	155,735	49.6	1,441,787	925,801	55.7
Totals	**7,873,290**	**6,624,699**	**18.8**	**151,146,075**	**122,882,100**	**23.0**

Local Service Airlines

All American[1]	21,251	9,861	115.5	118,890	65,488	81.5
Bonanza[2]	4,983	.....	....	11,543	.....	....
Central[3]	1,347	100	....	8,000	.....	....
Empire	8,607	7,571	13.6	18,364	14,446	27.1
Frontier[4]	17,832	16,057	11.0	219,569	217,291	1.0
Lake Central[5]	8,685	109	....	49,126	642	....
Mid-West[6]	1,002	73	....	.....	.....	....
Piedmont	26,203	18,578	41.0	218,800	103,543	111.3
Pioneer	37,894	29,216	29.7	190,794	110,609	72.4
Robinson	9,040	6,274	44.0	81,357	21,700	274.9
Southern[7]	6,649	1,753	....	44,546	15,765	....
Southwest	23,054	21,239	8.5	176,167	124,316	41.7
Trans-Texas	14,845	11,618	27.7	92,369	47,691	93.6
West Coast	9,608	8,716	10.2	27,625	11,679	136.5
Wiggins[8]	290	43	....	.....	.....	....
Wis. Central	7,764	4,943	57.0	48,095	22,305	115.6
Totals	**199,054**	**136,151**	**46.2**	**1,305,250**	**755,475**	**72.9**

International

American	68,471	64,805	5.6	1,396,129	1,182,463	18.0
AOA	162,931[9]	185,012	—11.9	2,063,602[9]	3,597,640	—42.6
Braniff	43,339	29,020	49.3	948,090	252,405	275.6
C & S	27,089	27,327	— .8	667,735	322,253	107.2
Colonial	18,732	9,943	88.3	54,793	51,086	7.2
Eastern	22,927	16,039	42.9	298,088	621,429	—52.0
National	21,799	16,664	30.8	278,312	366,586	—24.0
Northwest	104,837	75,365	39.1	6,353,307	4,600,892	38.0
Pan American	1,258,030	1,190,007	5.7	41,644,871	38,116,994	9.2
Panagra	104,220	105,968	—1.6	1,815,668	1,888,938	—3.3
TWA	344,688	288,159	19.6	6,122,251	6,036,327	1.4
United	102,301	64,440	58.7	4,998,548	306,689	1529.8
Totals	**2,279,364**	**2,072,749**	**9.9**	**66,641,394**	**57,343,695**	**16.2**

‡ Includes express and freight ton-miles.
* Includes subsidiary Inland Air Lines.
† Includes traffic over local service route segments..
[1] Began passenger operations March 7, 1949.
[2] Began operations December 19, 1949.
[3] Began operations September 15, 1949.
[4] Formerly Challenger Airlines and Monarch Air Lines, merged June, 1950.
[5] Formerly Turner Airlines, began operations November 12, 1949.
[6] Began operations October 21, 1949.
[7] Began operations June 10, 1949.
[8] Began operations September 19, 1949.
[9] Ceased individual operations and merged with Pan American, September 28, 1950.

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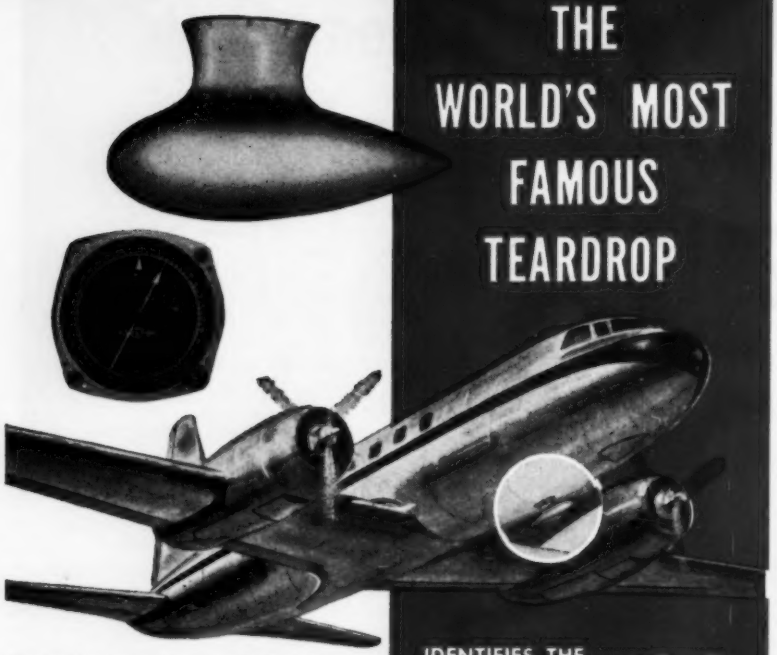

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AIRLINE PEOPLE

ADMINISTRATIVE

P. E. Willis and **N. E. Taylor** have been promoted to the new positions of director of administrative procedures and director of economic studies, respectively, of Trans-Canada Air Lines. Willis was formerly manager of TCA's budget bureau, and Taylor was manager of the economic bureau.

William A. Wheatley, west coast supervisor of United Air Lines' school and college service program since 1947, has received the Wings Club certificate of merit in honor of his contribution to aviation. Wheatley, now 81, developed an educational service for United more than a decade ago.

Wheatley

E. W. Sellors has been promoted from assistant chief architect to chief architect for Trans-Canada Air Lines. He succeeds **A. Matheson,** deceased.

John A. Smith has been advanced from sales promotion and cargo sales manager of Continental Air Lines to the position of assistant to the vice president, with responsibility for Federal agency and legislative matters.

OPERATIONS-MAINTENANCE

Kenneth E. Ross formerly station manager for Piedmont Airlines at Raleigh-Durham, has been made assistant superintendent of stations at the company's general offices in Winston-Salem.

M. L. Quackenbush, director of training for Delta Air Lines since 1945, has assumed additional duties under the new combined title of training and employment manager. His new position was created following the resignation of **Glen Evans.**

Patricia Partin has been appointed chief hostess for Mid-Continent Airlines, succeeding the former **Iowanna Meredith,** a recent bride. Miss Partin joined MCA a year ago, having previously been a hostess for Trans World Airlines.

Partin

Carl B. Leidersdorf, formerly supervisor of ramp passenger service for American Airlines at La Guardia Airport, has been given the new title of supervisor-ramp and passenger service. In addition to his former duties, he is now handling those formerly performed by **H. N. Canaday,** who resigned as

supervisor of cargo service to join Air Cargo, Inc., in Washington.

Robert L. Johnson, first officer on four-engined equipment for Pan American World Airways, stationed in Miami, has been granted a leave of absence to accept the post of operations manager for Aeronaves de Mexico.

John C. Hollingsworth, Pan American World Airways pilot who has been stationed in Maiquetia, Venezuela has been named flight instructor for Aerovias Venezolanos, PAA affiliate.

Andrew Abela, station manager for Pan American World Airways at Pointe-a-Pitre, has been transferred to New Orleans as junior station manager. **Robert Eppelein** is temporary acting station manager at Pointe-a-Pitre.

TRAFFIC & SALES

John D. Goode has been appointed assistant director of sales promotion for Trans World Airlines. He formerly was assistant to the director of advertising media.

Hershell E. Smith has been appointed western regional traffic and sales manager for Pioneer Air Lines in Dallas, replacing **W. W. Spradley,** recently promoted. Smith's former job as district traffic and sales manager in Austin and San Angleo was taken over by **Ken Cook.**

Smith

James J. Fauteux, Cleveland district sales manager for Northwest Airlines for the past eight months, has transferred to a similar position in Pittsburgh. He will be succeeded in his former post by **Howard W. West,** who has been a member of the Cleveland sales staff since returning from assignments for NWA in the Orient.

Richard D. Todd, former assistant traffic and sales manager for Pan American World Airways in Bermuda, has been appointed acting sales manager. **William S. Burton,** who had held the position of sales manager since 1943, resigned to accept the presidency of the Detroit-Windsor Tunnel Corp. Todd joined PAA in 1942 and before that served for two years with United Air Lines.

Warren H. Smith, formerly general sales manager for Northeast Airlines and New England manager for Irish Air Lines, now heads the Warren H. Smith Co., which has been appointed as New England representative for Braniff Airways.

Roger Wolin, public relations manager of Pan American World Airways' Latin American Division, has been presented a pin signifying 15 years of service with the airline.

Airline Commentary

By Eric Bramley

THE Civil Aeronautics Board is that sage, august body that regulates the airlines. It issues long and involved decisions, complete with long and involved formulae, on mail rates. It also issues long and involved decisions, sometimes complete with 40-page dissents (usually by Member **Harold Jones,** who resigned recently) on why this airline should or shouldn't have a new route. Sometimes you have to study these decisions carefully to make sure you understand the philosophy and formulae.

It is, therefore, refreshing to see at last a decision that leaves no room for doubt as to why CAB acted as it did. Alaska Coastal Airlines asked the Board if it could please have its certificate amended to delete the intermediate points of Berners Bay and Gypsum, Alaska. CAB, naturally, investigated to find out why these communities should be deprived of air service. It then granted the request, giving these forthright reasons:

1. "There are no persons residing at Gypsum."

2. "Berners Bay is an inland arm of the sea approximately 10 miles long, at the south end of which one family resides intermittently. There is also a watchman for certain mining property who resides approximately six miles north of Berners Bay."

3. The airline, in the year ended last March, transported no property and eight passengers to and from Berners Bay.

4. The Post Office Dept. says it doesn't need air mail service to either point.

That's what we like to see—clear-cut reasons. And in this case the five CAB members saw eye-to-eye—the decision was unanimous. It was then whisked over to the White House, where the President affixed his signature, as he must to all decisions involving air transport within territories and possessions. He can reverse CAB, but in this case he went along with their reasoning.

One small point bothers us: why were these places certificated in the first place?

•

Last month, we are told, the old order changed in Colorado. The last of the state's famous narrow-gauge passenger trains made the mountainous 200-mile run from Alamosa to Durango, then went out of service. The territory now belongs exclusively to Frontier Airlines, which makes the trip in one hour 11 minutes compared with 12 hours for the former train service. The train's conductor, who worked the narrow-gauge route for 52 years, returned from Durango to Alamosa via Frontier—his first plane trip and he's reported to have enjoyed it.

The Denver "Post" said the train's last run was well covered by photographers. "One of the most avid camera fans was a young fellow wearing a battle jacket, who was all over the train photographing all personnel, as well as grabbing shots at all stations and stops. Folks who rode the train saw the chap, R. G. Koplitz, in a somewhat different circumstance the following day. Wearing the wings of a pilot, Koplitz was climbing aboard a Frontier Airlines plane for his regular run to Salt Lake City."

•

Northeast Airlines deserves congratulations for a job well done during the recent rail strike. New England was probably the most completely tied-up section of the country, with some railroads suspending operations entirely. NEA, in addition to using its own fleet of five Convairs and seven DC-3's, chartered Constellations and DC-4's from TWA and United. On Feb. 4, it flew 48 extra sections, and added 36 the next day. Its loads were three times normal. **Bob Turner,** vice president-sales and traffic, tells us that 50% of the passengers were first-riders, and that the crews concentrated on making them regulars. He believes many were converted.

He tells one amusing story. A plane of another airline was approaching LaGuardia and the tower was giving him the traffic ahead. Tower to other flight; "You're No. 5 to land. A Northeast Constellation with TWA markings is No. 1. A Northeast DC-4 with United markings is No. 2. A Northeast DC-3 with Northeast markings is No. 3. An Eastern Convair with Northeast markings is No. 4. You are No. 5." Bob suspects that this may be a little exaggerated, but says that "it could have happened."

U. S. International Airline Traffic for December, 1950

Airlines	Revenue Passengers	Revenue Passenger Miles	Available Seat Miles	Passenger Load Factor %	U. S. Mail Ton-Miles **	Foreign Mail Ton-Miles	Express Ton-Miles	Freight Ton-Miles	Total Ton-Miles Rev. Traffic	Available Ton-Miles Flown	% Available Ton-Miles Used	Revenue Plane-Miles	Scheduled Miles	% Scheduled Miles Completed
American	7,989	5,930,000	9,991,000	59.35	14,428	3,862	1,576	127,974	787,465	1,314,468	59.91	197,094	179,547	100.00
Braniff	2,268	4,409,000	12,583,000	35.04	18,080	3,280	. . . .	104,213	576,193	1,670,883	34.48	275,476	275,476	100.00
C & S	2,396	2,311,000	5,979,000	38.65	3,996	471	. . . .	63,972	309,200	792,618	39.01	141,341	143,904	98.22
Colonial	1,854	1,467,000	2,604,000	56.34	1,345	894	. . . .	2,692	163,896	312,988	52.36	50,078	50,078	100.00
Eastern	1,519	1,580,000	3,842,000	41.12	17,078	. . . .	. . . .	16,826	204,841	437,819	46.79	64,480	64,480	100.00
National	6,925	1,894,000	4,681,000	40.46	1,526	16	3,975	20,212	219,717	602,075	36.49	83,899	85,460	97.07
Northwest	5,227	9,426,000	17,504,000	53.85	235,353	51,234	23,448	616,565	1,932,535	2,922,871	66.12	520,783	508,270	97.79
Panagra	9,190	9,495,000	17,945,000	52.91	46,106	26,749	192,076	. . . .	1,352,659	2,501,559	54.07	492,689	486,143	98.17
PAA														
Latin Amer.	58,562	52,581,000	83,408,000	63.04	386,660	84,192	2,023,228	96,922	7,890,261	13,081,637	60.32	2,358,745	1,831,408	99.25
Atlantic	23,583	33,791,000	57,218,000	59.06	617,680	117,335	1,081,661	40,428	5,693,639	7,940,235	71.71	1,288,923	1,399,783	82.95
Pacific	5,680	20,623,000	34,713,000	59.41	665,252	74,947	570,315	. . . .	3,377,837	5,450,811	61.97	789,585	772,167	99.16
Alaska	3,047	3,329,000	5,418,000	61.44	74,808	. . . .	353,642	. . . .	780,999	1,262,701	61.85	193,858	183,996	98.41
TWA	8,963	24,921,000	46,137,000	54.02	479,118	198,402	. . . .	649,967	4,078,061	6,440,511	63.32	1,066,559	1,048,022	97.81
United	4,077	13,386,000	20,855,000	64.19	119,728	. . . .	. . . .	1,164,479*	2,719,227	3,789,253	71.76	687,048	269,875	97.30
TOTALS	141,280	185,143,000	322,878,000	57.34	2,681,158	561,382	4,249,921	2,904,250	30,086,530	48,520,429	62.00	8,210,558	7,298,609	95.65

* Includes 297,698 ton-miles army mail under military contract.

** Includes air parcel post.

U. S. International Airline Traffic for Calendar 1950

Airlines	Revenue Passengers	Revenue Passenger Miles	Available Seat Miles	Passenger Load Factor %	U. S. Mail Ton-Miles***	Foreign Mail Ton-Miles	Express Ton-Miles	Freight Ton-Miles	Total Ton-Miles Rev. Traffic	Available Ton-Miles Flown	% Available Ton-Miles Used	Revenue Plane-Miles	Scheduled Miles	% Scheduled Miles Completed
American	90,022	68,471,000	112,820,000	60.69	126,664	37,383	13,060	1,383,069	8,885,426	14,974,975	58.78	2,284,185	2,156,880	98.74
AOA*	106,739	162,931,000	245,352,000	66.40	1,361,848	436,429	2,063,602	. . . .	21,656,757	33,497,972	64.94	4,873,657	4,884,493	94.94
Braniff	20,857	43,339,000	114,095,000	37.98	69,444	17,752	. . . .	948,090	5,251,389	16,008,618	32.80	2,636,018	2,649,880	98.49
C & S	22,631	27,089,000	75,213,000	36.01	31,882	5,051	. . . .	667,735	3,509,045	9,082,835	38.63	1,882,340	1,894,772	98.78
Colonial	23,130	18,732,000	30,082,000	62.26	6,499	4,719	. . . .	54,793	2,057,515	3,782,056	54.38	603,336	542,704	98.72
Eastern	19,320	22,927,000	46,316,000	49.50	93,113	. . . .	. . . .	298,088	2,818,873	5,455,574	51.65	869,757	759,200	98.76
National	80,562	21,799,000	43,396,000	50.23	13,682	16	169,078	109,234	2,508,316	5,653,024	44.36	784,729	795,864	95.47
Northwest	55,408	104,837,000	186,568,000	56.19	2,099,980	309,328	180,608	6,172,699	20,142,636	30,185,636	66.72	6,247,407	5,804,222	98.41
Panagra	101,186	104,220,000	217,028,000	48.02	381,766	242,190	1,815,668	. . . .	13,985,091	29,038,262	48.16	5,773,881	5,763,915	98.49
PAA														
Latin Amer.	704,211	616,703,000	996,383,000	61.89	2,893,128	758,192	21,759,051	940,436	88,122,970	153,288,023	57.48	27,928,106	23,626,469	99.19
Atlantic	194,503	366,894,000	521,474,000	70.35	3,764,575	1,001,296	8,618,755	295,679	54,056,396	80,481,402	67.16	13,140,497	13,279,332	93.22
Pacific	74,772	229,148,000	409,037,000	56.02	5,908,702	680,820	5,844,785	28,328	35,705,156	62,380,763	57.23	9,441,645	9,194,067	98.40
Alaska	45,345	45,285,000	78,441,000	57.73	431,227	. . . .	4,151,967	5,870	9,329,270	16,989,059	54.91	2,559,290	2,364,359	97.41
TWA	126,313	344,688,000	564,320,000	61.08	3,339,966	1,477,723	. . . .	6,122,251	48,778,713	78,728,494	61.95	14,043,079	13,876,905	97.70
United	34,047	102,301,000	154,820,000	60.60	666,652	. . . .	. . . .	4,998,548**	16,459,853	24,358,470	67.57	4,064,593	2,199,362	99.16
TOTALS	1,699,046	2,279,364,000	3,795,345,000	60.05	21,189,128	4,970,899	44,616,574	22,024,820	333,267,406	563,905,163	59.09	97,132,520	89,792,424	97.57

* Figures for AOA are through September 25, 1950, effective date of PAA-AOA merger.

** Includes 497,751 ton-miles army mail under military contract.

*** Includes air parcel post.

U. S. Feeder Airline Traffic for Calendar 1950

Airlines	Revenue Passengers	Revenue Passenger Miles	Available Seat Miles	Passenger Load Factor %	Mail Ton Miles	Express Ton-Miles	Freight Ton-Miles	Total Ton-Miles Rev. Traffic	Available Ton-Miles Flown	% Available Ton-Miles Used	Revenue Plane-Miles	Scheduled Miles	% Scheduled Miles Completed
All Amer.	150,843	21,251,000	64,820,000	32.78	43,186	118,890	. . . .	2,242,610	7,408,881	30.26	3,087,052	3,291,711	93.13
Bonanza	19,932	4,983,000	18,606,000	26.78	5,362	2,053	9,495	501,946	2,018,987	24.82	919,262	929,336	97.73
Central	10,819	1,347,000	7,608,000	17.70	16,344	. . . .	8,000	155,369	795,041	19.54	1,814,260	1,897,496	94.88
Challenger*	7,680	2,246,000	9,893,000	22.70	11,757	9,058	18,064	262,116	1,058,557	24.76	494,653	506,124	97.58
Empire	45,490	8,607,000	24,845,000	34.64	21,444	18,364	. . . .	851,169	2,451,694	34.72	1,183,261	1,150,827	99.73
Frontier*	47,077	12,606,000	50,106,000	25.15	52,071	38,311	105,295	1,461,865	4,844,965	32.22	2,536,441	2,553,362	98.82
Lake Cent.**	21,034	8,685,000	20,489,000	42.38	5,834	45,797	3,329	911,548	2,530,756	36.01	1,320,625	999,904	90.10
MCA***	8,725	1,885,000	4,744,000	39.73	4,692	8,452	14,869	207,959	542,168	38.35	225,903	223,868	98.50
Mid-West	6,940	1,002,000	6,076,000	16.49	17,655	. . . .	. . . .	99,225	666,837	14.87	1,519,664	1,761,026	86.25
Monarch*	11,536	2,980,000	13,496,000	22.08	10,137	9,693	39,148	358,500	1,311,342	28.86	749,820	789,660	94.19
Piedmont	123,958	26,203,000	77,085,000	33.99	51,835	84,454	134,346	2,779,290	8,806,884	31.55	3,673,087	3,718,932	98.00
Pioneer	132,159	37,894,000	92,779,000	40.84	99,334	48,424	142,370	4,099,473	9,279,594	44.17	3,866,086	3,719,412	99.43
Robinson	56,894	9,040,000	23,684,000	38.16	23,409	44,534	36,823	896,103	2,415,867	37.09	1,198,452	1,231,868	92.28
Southern	38,133	6,649,000	38,452,000	17.29	48,789	44,546	. . . .	725,976	3,481,675	20.85	1,835,942	1,889,494	96.92
Southwest	121,971	23,054,000	49,881,000	46.21	46,406	49,394	126,773	2,535,213	5,355,767	47.33	2,375,224	2,385,899	96.39
Trans-Texas	64,995	14,845,000	64,116,000	23.15	53,640	32,074	60,295	1,638,413	5,752,322	28.47	3,053,324	3,062,242	99.21
West Coast	67,800	9,608,000	25,790,000	37.25	7,360	12,011	15,614	901,586	2,511,926	35.89	1,227,359	1,273,878	95.44
Wiggins	3,207	290,000	1,760,000	16.47	1,719	. . . .	. . . .	27,151	186,284	14.57	462,426	641,919	71.74
Wis. Cent.	48,797	7,764,000	16,928,000	45.86	40,555	48,095	. . . .	823,801	1,774,181	46.43	2,050,946	2,176,962	94.20
TOTALS	987,990	200,939,000	611,158,000	32.87	561,529	614,150	714,421	21,479,313	63,193,728	33.98	33,593,787	34,203,920	95.60
Helicopter Mail Service													
HAS	. . . .	. . . .	. . . .	. . .	19,511	. . . .	. . . .	19,511	52,179	37.39	331,415	345,278	96.01
Los Angeles	. . . .	. . . .	. . . .	. . .	42,583	. . . .	. . . .	42,583	135,027	31.53	336,571	359,850	93.37

* Figures for Challenger Airlines and Monarch Air Lines are through May 31, 1950 only. Companies have merged and began operating under the name of Frontier Airlines, Inc., on June 1, 1950.

** Formerly Turner Airlines.

*** Figures cover feeder segment (Route 106) recently awarded MCA by CAB in the Parks Air Lines Investigation Case.

NOTE: Ozark Air Lines began operating September 26, 1950, but figures are not yet available. Data will be carried at a later date.

Flexible Airport Plan Cuts Expansion Costs

. . . Lambert-St. Louis saves $3 million

By KEITH SAUNDERS

BECAUSE the master plan drawn up in 1944 for the development of Lambert-St. Louis Municipal Airport was basically sound, yet flexible, the city is paying $3,000,000 less than it might have had to pay to increase the airport's capacity to meet foreseeable future traffic needs.

And therein hangs a moral for other cities, in the opinion of Herbert H. Howell, chief of the airports division of the CAA's Fifth Region, who is one of a number of CAA airports officials currently occupied with the problem of redesigning major air terminals to increase their traffic capacities.

According to Howell, flexibility and basic soundness are prerequisites of any airport master plan that will stand up under the test of the constant changes and advances in the technology of aviation.

Flexibility of Design

Such a plan, he says, will allow redesign of an airport to meet changing conditions, while a static or nonflexible plan may bring costly consequences to a city with an obsolete or obsolescent airport.

Howell stated his views on this subject in a speech before the annual meeting of the Air Transport Division of the American Society of Civil Engineers at Houston, in which he said inability of planes to clear the runway in sufficient time, and a lack of adequate ramp space for the parking of planes, are the two chief reasons most airports today cannot accept planes at a steady rate of 40 per hour, which is the rate electronic aids may make possible in the not distant future.

With such traffic a distinct possibility, and with most cities likely to continue the use of their present airports rather than to build new ones, Howell told the ASCE group that maximum efficiency in the handling of such a volume of traffic can be achieved only when the following basic requirements have been met:

1. All airports in a given community should be so located that their respective instrument traffic patterns do not overlap or conflict with each other.

2. Adjacent airports served by instrument approach aids should be so located that their respective instrument traffic patterns for both arriving and departing aircraft do not overlap or conflict.

3. Landing, taxi, and takeoff must be considered as independent operations, and allowance must be made for their accomplishment without mutual interference.

4. Where practicable, runways should be separated so that simultaneous use may be effected without conflict of traffic patterns. This will greatly increase the capacity and permit more direct approaches and departures and thus save aircraft time and reduce traffic congestion.

5. The airport should be so designed that the air traffic control tower can achieve flexibility in the choice of takeoff sequence without regard to the sequence of taxiing from the ramp to the takeoff runway.

6. Taxiways should be located at various points along the runway to permit landing aircraft to turn off the runway as quickly as possible to clear it for other aircraft and to provide minimum taxi distances to the service or ramp area on completion of the landing roll.

7. Taxiing aircraft should be able to pass other aircraft which are parked or holding on loading aprons or near runway entrances.

8. Taxi exits should be marked in such a manner that the pilot can anticipate the turn-off point in sufficient time to enter the taxi exit easily under day or night conditions.

9. The control tower must provide excellent visibility of all the airport area used by aircraft and all the approach and departure areas.

While it is fairly easy to meet these requirements in a new airport design, it is much more difficult, Howell said, to incorporate the essential features into existing airports with a minimum of compromise.

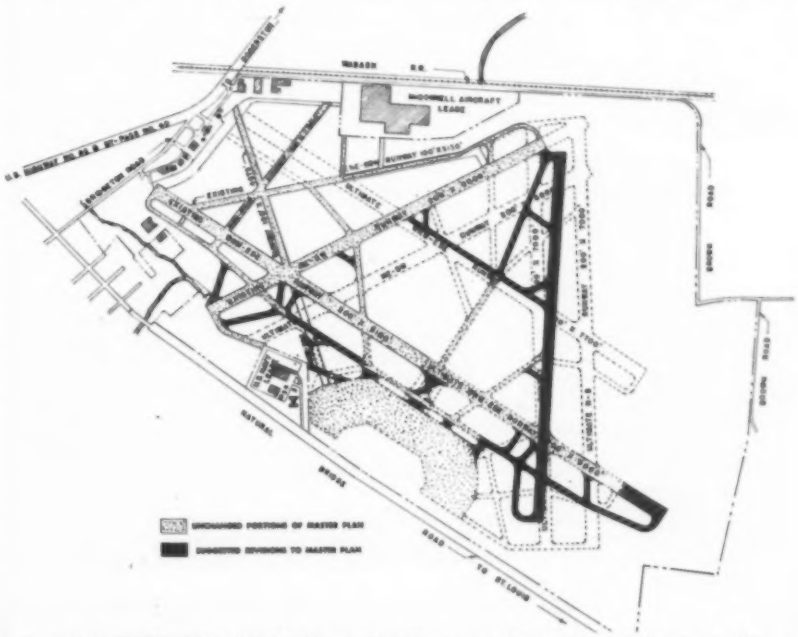
The latter is possible, however, if the airport is properly located and its layout is susceptible to modification, he said, which gets back to the basic requirement of a sound but flexible master plan.

Sound Master Plan

As an example of a good master plan, the CAA official cited the one for Lambert-St. Louis Municipal, which is one of the country's major air terminals.

This plan was based on the then popular concept of a three-runway layout, usable one runway at a time depending on wind direction, with provision made for dual parallel runways when required.

Only thing wrong with this concept, Howell pointed out, is that the expense of parallel runways is considerable and could be obviated if the airport were designed to that all



PENDING EXPANSION (black) fits easily into Lambert-St. Louis' sound master plan.

AIRPORT NEWS DIGEST

Big Deal at Wichita: Defense officials are laying groundwork for implementing Air Coordinating Committee's Airport Use Panel recommendation that the Air Force take over Wichita Municipal Airport for use as a Boeing B-47 combat crew training facility and build the city a new municipal airport.

Panel made a study of the Wichita situation and concluded that nature of the jet training program would make joint civil-military use of the present airport inadvisable. It recommended, however, that exclusive use of the airport not be turned over to the military immediately, but that it be done in phases concurrent with the build-up of B-47 production, combat crew training and availability of a new airport. Phasing program, as now set up, would require:

(1) Exclusion from Wichita Municipal and nearby Cessna Airport of all aircraft without two-way radio by April 1, 1951.

(2) Exclusion of all private and executive aircraft from Wichita Municipal by next July 1.

(3) Removal from the airport of all fixed base operators by next Sept. 1.

(4) Use of present airport by registered non-scheduled operations with USAF permission only pending availability of the new airport.

(5) Use of the airport by the scheduled airlines until the new field is opened.

Proximity of the municipal airport to the Boeing-Wichita plant, in which the government has approximately $89,000,000 invested, taken together with the Air Force's announced intention of establishing a permanent air base at Wichita, were the principal factors dictating the recommendation for establishment of the B-47 crew training school there.

Use Panel officials subsequently stated that the Wichita situation was an exceptional one, and that joint civil-military airport use remains as the basic policy to be followed.

TERMINAL AREAS, BUILDINGS

• **Contract has been let for rehabilitation** of the walls and roof of the administration building at New Orleans Airport and for enlargement of the mezzanine floor at cost of $247,000.

• **New million-dollar terminal building** at Norfolk (Va.) Municipal should be ready for occupancy in two to three weeks.

• **City of St. Louis has returned** the $15,112 allotted by the Federal government to finance preliminary planning of proposed terminal building at Lambert-St. Louis Municipal because of inability to meet June 30 deadline. Project has not been dropped, however.

• **Work on proposed $175,000** airport administration building at Morgantown, W. Va., is expected to begin about May 1, with bids being opened this month.

• **New terminal building at Des Moines Municipal** has been opened with temporary furnishings. Formal dedication will be held in the spring.

CONCESSIONS

• **Exclusive contract for operation of taxi** and limousine service between Stapleton Airfield and downtown Denver has been granted to Yellow Cab Co. City expects to get about $10,000 a year from stipulated 7% of gross receipts from the airport limousine service and 7% of metered fares collected from passengers taken from the airport to the city.

• **Allegheny County Commissioners have named** a special committee to study concession problems at new Greater Pittsburgh Airport, where 35 to 40 concessions are involved. All awards will be made on basis of negotiation.

• **Plans for operating a restaurant and cocktail lounge** in terminal building at Allentown-Bethlehem-Easton Airport have been abandoned temporarily, and entire second floor of new building is being offered for rent as office space.

—KEITH SAUNDERS

runways could bear traffic simultaneously.

Even so, the St. Louis plan was flexible enough to permit the recent adoption of certain revisions, conforming with the very latest thinking in airport design, that will give the airport its maximum traffic capacity without providing parallel runways. These revisions include:

• Increasing the ultimate length of the NW/SE runway from 9,000 to 9,800 feet to provide a minimum of 7,000 feet in either direction while still permitting other runways to be used.

• Relocating the proposed N/S runway by rotating it about five degrees to the east, thus eliminating the intersection of the N/S and NE/SW runways and permitting their simultaneous use.

• Revision of the taxiway system.

• Provision of bleed-off taxiways.

These changes will increase the potential capacity of the field by making two major runways traffic-bearing (one for takeoff and one for landing) simultaneously. The runway most nearly aligned with the wind is used for landing, while a runway quartering into the wind is used for takeoff. Provision is also made for light aircraft on the west side of the airport, using existing runways. The latter intersect but permit non-conflicting traffic patterns and under proper control they offer greater capacity than a single runway.

Main Runways for IFR

Under the revised plan, instrument use of Lambert-St. Louis would be restricted to the major runway system, of course. If the NE/SW runway continues to be the instrument runway, it can be used exclusively for landing, with takeoffs from the western portion of the NW/SE runway, which does not interfere with use of the instrument landing runway.

If the NW/SE runway becomes the instrument landing runway (with approach from the southeast), the NE/SW runway can be used for simultaneous takeoff, or if the approach is from the southwest the N/S runway can be used for takeoff.

Thus it has been possible in the case of St. Louis to eliminate the intersection of runways by a relatively minor revision of the master plan. This means that the suggested runway revisions, together with some additional taxiways and an ultimate 30 parking positions for aircraft, will give the airport a capacity that will

A Good Sign to Fly to...

The largest city in Canada—and still rapidly growing—is Montreal. For centuries the St. Lawrence River has been its main highway. But today the fully equipped airfield at nearby Dorval is Montreal's most modern gateway to all the rest of the world.

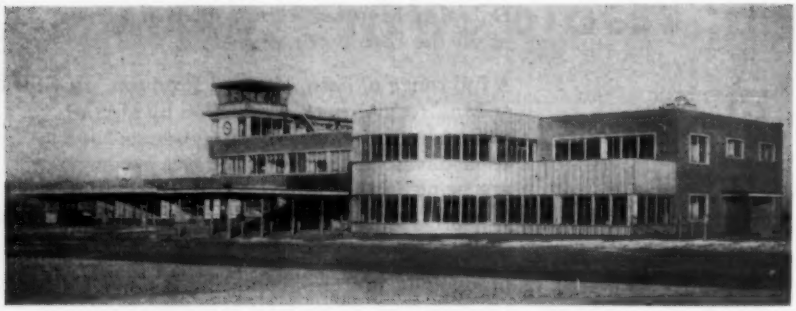
A full range of Esso Aviation Products, provided at Montreal Airport, is relied on by aircraft owners and operators. These products have been developed to meet today's needs—they are being further improved in anticipation of tomorrow's.

The Esso winged oval symbolizes petroleum products of uniform, controlled quality backed by more than 42 years of aviation experience.

*At Montreal Airport and throughout Canada the marketer of Esso Aviation Products is Imperial Oil Ltd.

(PHOTOGRAPH COURTESY OF TRANS-CANADA AIR LINES)

ESSO EXPORT CORPORATION, AVIATION DEPARTMENT,
25 BROAD STREET, NEW YORK 4, N. Y.



Pride of Des Moines— New airport terminal building at Des Moines, Iowa, offers a distinctive touch in the fluted aluminum sections making up the facing of the curved bay that houses the lobby. Designed by William Nielson, Des Moines architect, building cost $790,000 and was financed jointly with city and Federal funds.

Des Moines Terminal Building Planning Wins Public Acclaim

Des Moines is receiving much favorable comment on the appearance and layout of its new $790,000 airport administration building, which Art Thomas, airport superintendent, describes as "one of the best terminal facilities in the country for its size."

Opened last December 28, the building brings together under one roof for the first time all the operations of the airlines and the government agencies at the municipal airport.

Anticipating the ever-changing requirements of tenants of such a building, Des Moines' architect, William Nielson, adopted a modular design of 20 x 20 foot column spacing with no bearing walls, everything being carried on the steel frame structure. Hence, as alterations are required, partitions can be moved to fit the space requirements.

Dimensions of the terminal are 200 x 80 feet with a 40 x 40 foot air freight section included on the ramp side.

Three Airlines

Three airlines—Mid-Continent, Mid-West and United—occupy space on the first floor, and there is additional space available for another airline if needed. The 40 x 80 foot lobby is part of a curved bay projecting out from the front of the main structure, and adjacent to it is a coffee shop and a newsstand.

The second floor of the terminal houses CAA Communications, the Weather Bureau and District Aviation Safety Division, and provides ample space for a kitchen and a sizable dining room, the latter overlooking the field.

On the third floor, under the control tower, is the chief controller's office and an equipment room. Provision has been made for the future installation of radar equipment in the tower.

Air Conditioning

The tower, incidentally, is air conditioned, as also is the coffee shop, dining room and CAA Communications.

The building has a full basement, a considerable portion of which is rented already to the airlines, the restaurant operator and governmental agencies for storage space. The basement also houses the spare generator used as an emergency power source.

In all the public space the floors are terrazzo and the walls are light buff glazed tile, these materials having been selected to insure ability to keep the building clean at a minimum of expense. All ceilings are of acoustic plaster. Windows and doors are of aluminum frame and plate glass, while the tower is glassed in with Thermopane. Exterior of the building is of brick and fluted aluminum sections.

Rental rates in the building are $3.00 per sq. ft. on the first floor, $2.00 per sq. ft. on the second floor and $1.00 per sq. ft. in the basement, all on an annual basis.

Manager Art Thomas says "public acceptance and passenger comments have indicated our judgment has been sound and our planning thorough."

take care of St. Louis' needs for at least the foreseeable future.

And the attainment of this resultant capacity without the necessity of building parallel runways, as contemplated originally, will save the city a t least $3,000,000.

Howell said the St. Louis experience, which could be duplicated at a number of other cities with some variations, points up the importance and value of redesign of existing airports where the airport location and plan permits such redesign.

AIRPORT PEOPLE

Lester G. Orcutt, former director of the Iowa Aeronautics Commission and for the past three years manager of the Ottumwa Municipal Airport, has signed a new two-year contract with the city at a salary of $7,000 a year, plus occupancy of a house on the airport property.

Arthur E. (Art) Thomas, superintendent of Des Moines Municipal Airport since 1925, has been appointed director of the city's newly created Department of Property Management. He will continue to manage the airport.

Col. John N. Lavin, assistant airport manager at Spokane, Wash., and a member of CAA's Airports Advisory Committee, has been named commanding officer of the 142nd Fighter Wing, ANG.

Anniversary— Woodruff (Woody) De Silva (right), manager of Los Angeles International Airport, holds a poster presented to him at a party commemorating his 22nd anniversary with the airport. Shown behind the poster (left to right) are: John T. Atchison, Douglas Aircraft; L. A. Ronsberg, California Central Airlines; Richard Conley, Pan American World Airways, and Charles Morgan, Los Angeles Dept. of Airports. Looking over De Silva's shoulder is C. W. Covelline, Jr., of the Post Office air mail field station.

AND FOR GARDEN CLUBS, NEW HOES:

Operators Can Write Own DO's for Critical Plane Parts

By Barbara J. Ward

WITH mobilization progressing by stages and information coming piecemeal from Washington, fixed base operators are wondering how they fit into the picture. Here are some of the questions being asked, and the answers as of this week.

What do I do if there is a shortage of parts or equipment?

Any fixed base operator, or for that matter the operator of any small business, institution or club, can now write his own Defense Order for parts, equipment and minor improvements to the full scale of his 1950 business.

A new National Production Administration Regulation 4, dated February 27, 1951, has assigned a DO-97 priority rating for use by all trades and industries which have not been assigned another DO rating. CAA has advised their area personnel that the priority does apply to non-scheduled aviation until such a time as some system of allocating materials and supplies to "essential" users may be established. Such a controlled materials plan is not expected to become effective until about next summer.

In the meantime, if a flight school operator or any other fixed base operator needs an aircraft or is short a part, he has a choice of two methods to obtain it. First, he can try to buy it on the open market from supply services or other operators, with the assistance of the regional CAA agent who will keep a general check on equipment available.

Write Your Own DO

Or, second, an operator can write his own Defense Order under the provision of NPA Regulation 4 and the supply service or manufacturer to whom he takes it will be required to fill the order to the extent possible. All the operator has to do is write on the order or on a slip of paper attached to the order the words, "DO-97, certified under NPA Regulation 4." It is handled entirely by the operator and it has the standing of any Defense Order.

The regulation is extremely broad, covering small businesses, institutions and clubs. Presumably, a garden club could use the DO-97 rating to obtain a new hoe or a bar room could use it to obtain a television set. CAA officials interpret it to authorize any aviation business, other than scheduled airlines which have a DO-01 rating, to obtain parts, equipment, replacements, and equipment additions costing up to $750 per unit.

Aircraft owners using their planes for business can apply DO-97 ratings to obtain parts as well as minor capital additions such as navigation and communications equipment costing $750 or less. Flying clubs can use DO-97 ratings for repair and maintenance of aircraft and other club equipment. An individual using his plane for pleasure and not for business, however, cannot take advantage of the DO-97 rating merely because he belongs to a flying club or association.

Subject to Quotas

Operators should think twice before using the DO-97 rating. Every business making use of it immediately comes under quotas based on the business done in 1950; and once this is established it may be impossible to expand business even if the opportunity arises. Maintenance, repair and operations (MRO) quotas may be (a) standard quarterly MRO of one-fourth the total amount spent for MRO in 1950; (b) seasonal quarterly MRO's of the amounts spent in the corresponding quarters of 1950; if in business only a part of 1950, MRO's will be based on the yearly total based on an extension of the actual period of business; or if a new business, the MRO shall be the minimum reasonably necessary for operation but not in excess of $5,000 per quarter.

Any person with an MRO quota in excess of $1,000 per quarter must notify NPA of the basis on which he has computed the quota within 30 days of his first use of DO-97. Requests for adjustments should be sent to the National Production Authority.

Will non-carrier aviation be given an individual DO rating in the future?

The chances appear slim. CAA, CAB and the Air Coordinating Committee have discussed the desirability of such a DO rating for charter operators, agricultural flying, etc. with the National Production Authority, but NPA shows no signs of issuing one. Part of the difficulty has been the Air Force. It backed a DO rating for scheduled airlines but appears unsympathetic to the potential defense value of industrial, agricultural, and unscheduled charter operations.

Is any action being taken to establish non-air carrier aviation as an essential activity?

(*Turn to Page* 58)

Flying Bullet—New four-place "Texas Bullet" has been put into production by Aircraft Manufacturing Co., Tyler, Texas, following its recent CAA type certification. The "Bullet" cruises at 175 mph at sea level and requires 1,585 feet for takeoff with a full load to clear a 50-ft. obstacle. Powered by a Continental 185-hp. engine with a Hartzell propeller, it has all-metal construction, retractable landing gear and slotted flaps. Gear has a wide spread to enable landing on rough ranchland. Company has sufficient material on hand to build ten of the planes and expects soon to be producing two a month.

THE Washington View

By Barbara Ward

NORMAN Larson of Pacific Aircraft Sales, Beechcraft distributor for southern California, reports more than a dozen orders have come in for the new Twin Bonanza despite the fact that he can't supply a delivery date. All Beech models are booming and Larson says that 80% of the single-engined Bonanzas being sold by his company are for business purposes. This just reverses the situation before World War II, when 80% of his sales of single-engined Beechcrafts were for pleasure and only 20% for business buyers.

It fits in with what one large fixed base operator on the east coast has noticed—that every one of the profitably operated large fixed base companies is making its money from sales and service of business-owned and operated aircraft. It's a shame that Ryan Aeronautical Co. has to discontinue the Navion right at this point. Executive aircraft are just coming into their own, and the new Ryan Navion is a beautiful piece of machinery.

Where is the business aircraft market? Bob (Breity) Breithaupt of Reading Aviation Service, Reading, Pa., says, "Just look for the smoke stacks. It's there."

•

Aviation schools and veterans will be relieved to learn that Veterans Administration will allow students who interrupt their GI Bill training to go back into the armed forces to resume their studies within a reasonable period of their discharge. Also, military students who are taking GI studies in their spare time and interrupt their studies because of military duties or transfers will be allowed an extension over the normal cut-off date.

In general, veterans discharged before July 25, 1947, have a cut-off date of July 25, 1951, for GI Bill studies but may complete any courses in which they are enrolled at that time. Veterans discharged after July 25, 1947, have a cut-off date for GI Bill studies four years from their date of discharge.

•

Ground instructor ratings will not be abolished, as proposed by a recent CAB amendment to Civil Air Regulations. An unusually high number of comments have been received from the aviation industry, the majority of which were against the revision. Reasons given for continuing the rating were: the ratings are used in many states in place of a teacher's certificate; elimination of the certificates might work a hardship on aviation vocational schools which would have to obtain state teacher's certificates for their instructor personnel; and there may be an accelerated demand for ground instructors under the present increase in military training and a tendency to break down the established standards.

•

Aircraft Industry Association's recommendation to CAB that aircraft should be regulated according to their operational use instead of by arbitrary limits such as weight and number of engines may lead to establishment of new aircraft categories. It seems sensible. Now, if a lightplane manufacturer wants to modify an aircraft in a way which will add weight and put it over the 12,500 pound limit of CAR Part 03, he has to meet different aircraft regulations. Usually it isn't worth the trouble and the improvement goes back into a desk drawer.

•

Irate New Yorkers have filed 14 claims totaling $288,333 for flooding caused by New York city's rain-making operations, part of which has consisted of seeding clouds from aircraft with dry ice. The claims were filed one day before the expiration of the second six-months contract between the city and its "rain maker," Dr. Wallace Howell, and charged, "interfering with atmospheric conditions." Moral: don't do anything about the weather.

(*Continued from Page 57*)

The National Security Resources Board task group C Committee on "Industrial Business and Agricultural Flying" is preparing a list of essential private aviation activities. The committee's recommendations are reaching the final stage. And the Air Coordinating Committee has already suggested to NPA a tentative list of essential non-carrier activities which includes business-owned and operated aircraft, agricultural aircraft, planes used for training in connection with defense as Civil Air Patrol, and planes operated by fixed base operators for business purposes.

What are the chances in the present national emergency for a civilian "airmen" training program?

Two bills have been introduced in Congress, one of which (H. R. 1521) would authorize training of civilian pilots and aviation technicians within the limits of future Congressional appropriations, and the other (S. 507) which would amend the Civil Aeronautics Act permanently to allow CAA to authorize and request appriations for such training.

Both bills would include training of maintenance men, radio technicians, etc., as well as pilots. CAA would like to see either bill pass, but the second bill has the advantage that it would establish a permanent provision and any time training appears justified, CAA could ask Congress to vote the necessary funds.

Whether the legislation is passed at the present time depends largely on the Air Force. If it sees no value in creating a pool of young, semi-trained civilian aviation personnel, Congressmen will see small reason for giving it their attention at the present time. So far the Air Force hasn't said—at least, not publicly.

Will there by any flight training contracts in connection with college Air Reserve Officer Training units?

The Air ROTC bill introduced in Congress last year was re-introduced as H. R. 1775 in January and stands a good chance of passing. The bill has already been discussed to a certain extent in Congressional hearings on manpower and draft legislation.

Designed to provide the Air Force with long-range replacement of reserve officers and to assist young men with their college educations while giving them basic training for Air Force service, it would authorize flight training of selected Air ROTC cadets at civilian flight schools. The bill states that the civilian schools would provide "the necessary personnel, aircraft and equipment to conduct flying instruction."

At present there are 125 such Air ROTC units but under new Air Force

plans, the number will be increased to 187 by next September. Potentially, the bill could affect 187 civilian flight schools located at airports near colleges which have Air ROTC units.

What are the chances for increased civilian training of Air Force technicians?

The Air Force is increasing its use of civilian technical schools to meet training requirements. Seven schools have just been awarded new contracts to train USAF aircraft and automotive maintenance men and clerks. This brings to twelve the number of schools to receive contracts to enroll some 355 airmen each week in courses ranging in duration from nine to 16 weeks.

Schools just awarded contracts are: Aero Industries Technical Institute, Oakland, Calif.; St. Louis University's Parks College; New Mexico Highlands University, Las Vegas; Bowling Green State University; Commercial Trades Institute, Chicago. Ill.; Vale Tech. Inst., Blairsville, Pa.; and Oklahoma A & M College's School of Aeronautical Training. For information on future contracts, contact J. B. McNeely, Contracting Officer, Headquarters AMC, Wright-Patterson AFB, Dayton, Ohio, or the Information Officer, Air Training Command, Scott AFB, Ill.

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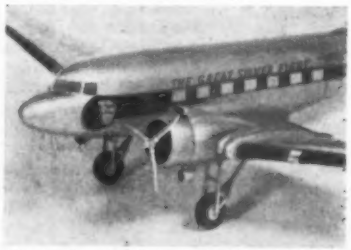

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Cross-Country

WITH LOCAL OPERATORS

By Page Shamburger

FLORIDA—**Carl Stengel** on Stengel Airport in **Gainesville** started airport operating in 1928. He must think the business is all right, for he's still hard at it. Carl has an idea on contracts well worth mentioning. In case any CPT or similiar programs develop for the local operators, he feels restrictions should be put on equipment. If lightplanes are to be used, Carl thinks they should be at least 85 horsepower and with certain maximums on total plane hours.

It's amazing the number of 65 Cubs still being used for training. Cubs that were built in '39 and '40, went through CPT, WTS, and the GI's and having literally thousands of hours are surely not the safest equipment for a new training program. If these planes were banned for training, manufacturers would get a boost as well as private flying. Surprising thing, too, Carl's Cubs are 65 hp., so, he would have to go out and buy according to his suggestion. As for subsidy or government contracts, Carl says, "It should be settled definitely one way or the other. All of this talk on programs is ruining our chances of selling aviation on a cash basis, now."

Red Altman, manager of **Gainesville Municipal** and of **Gainesville Flying Service,** is working hard to make flying pay. His outfit makes the mail run from town to the airport, operates a Pontiac station wagon for airline passengers, plus the usual flying school activities. Understand they also trade cars and anything else with a chance of a profit . . . As Red says, the only business they are not in is selling moonshine . . . Government agents, please note the not.

Orlando went all out for their air festival, but the attendance was not nearly as large as should have been. **Florida Aviation** fellows worked long hours and did everything possible. **Wally Schanz, Sandy Sands,** and **Ed Neilson** to name just a few gave up everything

Ed Neilson of Orlanda, Fla., is "The Grand Scaly" of famous Flying Alligators.

to promote it and to make everyone have a good time. CAA went all out, too. **Buck McLean** of Orlando leading the parade with **Robie Robertson** and **Harry Copeland** of Atlanta doing more than their share. CAA Administrator Don Nyrop was there, I understand, but I had to move on before he arrived.

The dinner and **Alligator Festivities** were gala as usual, with an attendance of about 200. One of the blasted things, and not the flying variety, bit Miss Ann Ross, a Florida 99'er. Though tetanus was taken, the injury from the junior-sized monster was minor.

Mr. and Mrs. M. F. McDonald, Florida Flying Farmers, entertained royally on their strip just north of **Apopka.** Mr. and Mrs. Mac are two of the grandest people and really hep on flying. They gave a blanket invitation to everyone for a wonderful fried chicken dinner . . . all you could eat, too. Then took all the flyers through the local citrus concentrate plant. On top of all that, everyone was given all the oranges they wanted. The pilots were so pleased they forgot loading problems, and you should have seen the planes laboring off with oranges in every conceivable place.

Hoequist Airport in **Orlando** is managed by **Ken Hoequist** a CAA designated aircraft maintenance inspector. Ken's got a swell sod field which was a dairy at one time. It's smooth and plenty large with good services to transients. Ken has been in the biz since 1933 and blames the lack of a good postwar plane for the loss of interest. The market was saturated with training planes and no new types were produced until interest waned, he says.

Maintenance costs, too could be brought 'way down if the red tape could be cut. DAMI's all over the country tell of the fact that weight and balance papers take three-fourths of the time on a simple installation. Does seem some of this could be simplified, so bills for the private plane owners would not be such a complaint.

Sandy Sands . . . he's a city manager with a personality and a push for aviation. He's out at **Orlando Muncipal** and hard at work promoting flying interest in the city as well as in the surrounding area.

Buck McLean is another fly-guy Orlando can boast. Buck's CAA safety representative and is here, there, and everywhere helping all in the flying biz. He helps, too, not just telling someone what to do. Showalter, Showalter, and Rogers carry on the aviation game at **Showalter Airpark** just north of Orlando in **Winter Park.** Howard & Sandy are brothers and "Buck" Rogers is a cousin. These guys have tried national advertising, plus booklets and direct mail. None has shown noticeable results. They aren't discouraged, though, and are the fathers of one of the first experimental three-in-one cross country training programs. This approved school has trained the first three students and is most happy with the results. A Piper Pacer is the training ship and the cross country trips often last over night. The observer time is three times the length of the flying time with pilots switching every landing. The first student to solo took only 9 hours with a total of twenty landings . . that's plenty quick, and in a Pacer, too. Perhaps this will be the coming training plan for all airports with utility as the future of flying and cross country the necessity.

Wes Jackson's Flying Service on **Palm Beach County Airport** has more business than it can handle. Yes, it's true, and justifiably so. **Charley Weeks** is manager

Staff of Wes Jackson Flight School, Palm Beach County Airport, Lantana, Fla. (l. to r.): Ed Davis, Horace Provence, Owen Gassoway, Jim Bradshaw, Wes Jackson and Charley Weeks.

and well known to Smilin' Jack comic-strip readers, for he was model for "Curley Horns" and "Backseat Bascom," though he hates to admit the latter. Charley has sold the local sheriff and a banker, among others, on flying and has sold them planes. Transient trade includes everything from DC-3's to Cubs with each getting an equal amount of service and personal attention . . . And what beautiful service. No wonder anyone who lands at this Lake Worth Airport comes back again.

Wes Jackson has logged over 5,000 hours instructing. Believe that's close to a record. He uses a personalized style and even studies the psychological make-up of each trying-to-fly boy. Each solo student is given a certificate and a pin, and that kind of attention really goes a long way.

Owen Gassoway is the mec and a DAMI. He treats your airplane as if it were his own. It seems that all he has to do is look at it, and it runs 100% better.

The airport is a beauty, with hard-surfaced runways, and a canteen. The canteen has an unusual origin—it was built by donations of the local city folk for the CAP and now offers good light meals with tops in home-made pies.

IN FLIGHT

A PAGE FOR ALL PILOTS

Coairdinator

There are probably as many different types of flight calculators as there are types of aircraft. Almost every airline has its own favorite design, there are several major types used by the military services and virtually every aeronautical supply house is marketing an "original." There's not much that can be original on a flight calculator at this late date.

Last week we did come across a new calculator, the Halpin flight and route plan Coairdinator. We wouldn't dare say it is the first calculator to provide any of the functions offered. We would say it combines in one place the best features of the calculators we've seen. The private pilot will be particularly appreciative of the Coairdinator because it can be used effectively without constant practice.

Its usefulness starts with the simple carrying case. On this is printed basic CAR visual and IFR flight rules and the complete airway weather code. Each of the symbols used on the hourly sequence weather reports is shown with its meaning. Also, there are the portions of CAR outlining when flight plans must be filed.

Of course, there's the regular disc-type computer. A novel feature is the coding of the inner and outer dials (a & b) to a set of printed instructions for use of the calculator. The same white plastic piece on which the largest scale is printed carries 14 specific Coairdinator applications to common flight problems. Bold-face (dark) type in the instructions mean the information is to be found on the rotating scale, light-face means it's on the outer scale. Also included on this side of the unit is the line-of-sight distances for reception of omni-range and VHF communications purposes and basic rules for flight altitudes.

On the other side of the Coairdinator is a printed copy of CAA's official flight plan form. It provides a simple method of keeping the filed flight plan near at hand or of planning trips ahead without forgetting important details. There's a 24-hour clock face printed near the flight plan, blank spaces for all types of progress data, conversion scales for nautical to statute miles, Fahrenheit to Centigrade temperature, gallon to pounds, and all the other features you'd want on your calculator.

The Coairdinator was designed by Tom Halpin, an old-timer in the flying business who is still mighty active, and represents the result of long-time experience. He's formed the Halpin Coairdinator Co., P. O. Box 65, Lambert Field Branch P. O., Lambert Field 21, Mo. Price of the Coairdinator is $3.50. —W. D. P.

Two-Way Radio for ADIZ Zones

The anticipated emergency requirement for two-way radio is casting its first shadow on private flying. CAA has published an amendment in the Federal Register requiring two-way radio for flights within Air Defense Identification Zones, except where a waiver is granted. As it now stands, this will not affect many flights since CAA airways facilities may authorize waivers for (1) local flights; (2) flights between points located within the boundaries of an ADIZ, and (3) from points within an ADIZ zone to points outside the zone.

Also, since ADIZ zones in the interior of the United States begin at an elevation of 4,000 feet above the ground, aircraft flying below 4,000 ft. in such zones will not need radio. But for the Atlantic, Pacific and International Boundary zones which cover most of the U. S. seacoast and a part of the Mexican and Canadian boundaries, the requirement is in effect regardless of altitude. If an aircraft is more than five minutes off the ETA or 20 miles from the estimated position, a correction must be filed with the CAA airways station.

Pilot Time Limitation Changes

Increased book-keeping for the airlines but added flexibility of pilot schedules will result if CAB's proposed amendment to CAR 41.57 on "limitations for pilots" is adopted.

The amendment would modify flight-hour restrictions for pilots who fly in mixed crews—two-pilot crews, two-pilot-plus-airmen crews and three-pilot crews. According to present regulations, pilots who are not regularly assigned to any one of the three classifications are limited in flight time to the most conservative limit or the 100 hours per month of two-pilot crews. Under the proposed modification, two-pilot crews are still limited to 100 hours per month; pilots who fly 20 hours or less in two-pilot crews and the remainder in two-pilot-plus-airmen crews are limited to 120 hours per month; and pilots who fly 20 hours or less in the previous categories and the remainder of their flight time in three-pilot crews will have no monthly limitation on their flight time. However, the latter group must still abide by the 350 hours in 90 days flight time limit and only one transfer will be allowed from one type of crew to another.

Comments on the proposed amendment must be received by CAB, Washington 25, D. C., not later than March 28, 1951, and will be considered before the Board makes a final decision.

A Rose by Any Other Name

Well-known Bert Acosta of Denver, Colorado, will attempt to set a new endurance and altitude record in this month or next. The flight will use Dallas, Texas, and Miami, Fla., as pylons and will refuel over Daytona Beach. Acosta is out to prove that cheaper power plants can be used successfully in airplanes, and will use an automobile engine aircraft.

He is an old hand at breaking records. In 1921, he broke the world record for aircraft speed, flying at 176.9 mph. And in 1927, he flew the Atlantic for Admiral Byrd and set a then world flight endurance record of over 51 hours in the aircraft "Columbia" with Chamberlain. "I want to get away from the stigma of my past stunts," he maintains. "I'm in the motor business."

Jet Hop—The Assistant Secretary of the Air Force tries his hand at "jet jockeying." Eugene M. Zuckert went aloft in a two-seat Lockheed T-33 jet trainer while inspecting Lockheed's flight operations base at Van Nuys, Calif.

WINGS OF YESTERDAY

25 Years Ago

Officials of U. S. private air mail contractors met in Chicago to discuss a uniform system of traffic solicitation and to establish a basis for interchange of traffic.

•

Ford Motor Co. was planning to erect a new plane manufacturing plant and a new hangar with a capacity of housing 15 or more planes at Ford Airport, Dearborn, Mich., to replace the building of the Stout All-Metal Airplane Division which was destroyed by fire. The new building was to have a floor area of 60,000 sq. ft.

•

The annual report of the Curtiss Aeroplane & Motor Co., Mineola, N. Y., showed net earnings after full depreciation of $156,780, derived largely from government contracts.

10 Years Ago

(In AMERICAN AVIATION)

CAB amended Civil Air Regulations to permit air carriers to fly direct courses using airborne automatic radio direction finding equipment in instrument conditions, eliminating the former requirement to follow radio range courses.

•

Completion of prototypes and limited production of the Douglas DC-4 and Lockheed Constellation was assured by easing of priorities on commercial transport planes.

•

Army Air Corps selected sites for seven advanced flight schools to cost $17.3 million.

TECHNICAL LITERATURE

HOISTS: Single-drum, multi-purpose hoists with capacities from 500 to 3,500 pounds are described in a new 16-page brochure released by Joy Manufacturing Co. Oliver Building, Pittsburgh, Pa.

FLOORMASTER TRUCKS: The standard line of Lewis-Shepard Floormaster trucks are described in Bulletin No. 29 now available from Lewis-Shephard Products, Inc., 257 Walnut Street, Watertown, Mass. Both two-wheel and four-wheel hand trucks such as used in stock rooms and accessory shops are covered.

COMPACTION: Two new brochures on compaction equipment and actual job data are available from Wm. Bros Boiler & Manufacturing Co., 1057 10th Ave., S.E., Minneapolis 14, Minn. Described are Bros pneumatic-tire rollers ranging from 7 to 50 tons.

ELECTRONIC INSTRUMENTS: A 64-page catalog covering 35 electronic instruments and accessories for audio to microwave measurements has been published by Kay Electric Co., Pine Brook, N. J.

PLEXIGLAS: A 12-page, pocket-size booklet on Plexiglas Injection Molding Powders and related molding information is being circulated by Rohm & Haas Co., Washington Square 5, Pa.

MULTIPLE HOLE PUNCHING: The Wales multiple-hole punching system for punching holes in sheet metal parts is described in an eight-page illustrated catalog available from Wales-Strippit Corp., 345 Payne Ave., North Tonawanda, N. Y.

AIRLINE SEATS: An interesting coverage of the design, engineering, appearance and applications of TECO airline seats is contained in the new booklet "TECO, The Airline Seat," now being distributed by Transport Equipment Co., 2505 North Ontario St., Burbank, Calif.

CARBIDE TOOLS: The design, application and selection of carbide tools and parts is discussed at length in a new 60-page illustrated catalog available from Carboloy Co., Inc., Box 237, Roosevelt Park Annex, Detroit, Mich.

BENDING CHART: A slide chart presenting data on desirable minimum radii for economical bending of stainless tubing and pipe has been prepared by The Carpenter Steel Co., Alloy Tube Div., Union, N. J. Covers tubing from ⅝ inch to 5 inches O.D. in B.W. gauges from 22 through 11.

UNIVERSAL JOINTS: "Ball type" universal joints ranging in size from one-half inch to 1¼ inches, single or double, solid or bored hubs, are described in detail along with engineering data and photos in a new catalog now being circulated by The Curtiss Universal Joint Co., Inc., Springfield, Mass.

MICARTA GEARS: The designing, machining and application of micarta gears is described in a new 15-page micarta gear booklet now available from Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa. Includes tables showing physical properties, preferred pitch, etc.

LETTERS

Album Author Snapped

To the Editor:

We at the Aeronautical Center have been very much impressed by your gesture in reproducing Ken Boedecker's album which recalls many recollections of pleasant associations over the years.

I am wondering if you could use a candid shot of Ken, and I am enclosing a negative

taken of George Lossow (left) and him at the 1950 ATA maintenance meeting in Kansas City.

L. E. SHEDENHELM, Acting Chief
Technical Assistance Division
Civil Aeronautics Administration
Oklahoma City, Okla.

OBITUARY

Alberto Dodero

Alberto Dodero, 65, South American shipping and aviation leader, died in Montevideo, Uruguay, on March 2, following a heart attack. He was the founder of FAMA, Argentine international airline, and ALFA, which operated primarily between Argentina and Uruguay. Both were taken over by the Argentine government, together with his extensive shippings interests, in 1949.

Airlift for War or Peace

April 16 is the publication date of AMERICAN AVIATION's second annual Air Progress Issue. Keynoting its theme "Airlift for War or Peace," this issue will cover all phases of world-wide military and commercial aviation. Representing the combined efforts of the entire AMERICAN AVIATION staff, "Airlift for War or Peace" will mirror aviation developments and changes in the past year against a background of the trends shaping aviation's future.

Characterizing this all-inclusive news coverage, "Airlift for War or Peace" reports on the Pacific Airlift. This was perhaps the most significant story of 1950, both for contribution to the war effort, and for its indication of commercial aviation's role in all-out mobilization. This forthcoming issue will cover these phases of the Pacific Airlift:

- Military Air Transport Service (MATS)
- Combat Cargo Command
- Troop Carrier Command
- Strategic Air Command
- Fleet Logistics Air Wing (FLAW)
- Special Air Mission
- Marine Air Transport
- Commercial Airlines

Facts and Figures—12th Edition

AMERICAN AVIATION will again be the only magazine authorized to publish the official Air Transport Association summary, "Facts and Figures." This annual report of scheduled airline operations shows the growth of air transportation, passenger and revenue figures, aircraft utilization, and the financial structure of the air transport industry.

Airline Banner Year

Record airline profits in 1950, improved on-time records, a trend toward bigger transports, and a huge backlog of transport orders highlight 1950 as the most successful year in airline history. This, plus the story behind it—airline expenditures in 1950, trends in airline fares and effect on traffic volume, international airline competition, air safety, all weather flying developments, and improved maintenance methods—are featured as "Airlift for War or Peace" reports on the airlines' banner year.

Growing Demand

In anticipation of increasing requests for copies of "Airlift for War or Peace," AMERICAN AVIATION is now accepting orders for this special issue. The price is one dollar per copy. All current AMERICAN AVIATION subscribers will receive "Airlift for War or Peace" as part of their regular subscriptions. New subscribers will also receive this special issue at no extra cost.

BOEDY'S ALBUM

Arthur C. Goebel (QB)
Phillips Petroleum
at Wichita, Kansas
July 11, 1939

J. G. "Jimmie" Haizlip (QB)
at Walter Beech Dinner
Wichita, Kansas
July 11, 1939

A. S. "Andy" Swenson (QB)
Swenson Motor Company
Wichita, Kansas
July 11, 1939

Carmen M. Beech
(Mrs. R. K.)
Wichita, Kansas
July 11, 1939

E. W. "Pop" Cleveland (QB)
Cleveland Aerol Struts
at Beech Dinner, Wichita
July 11, 1939

J. P. "Jack" Gaty
Beech Aircraft Corp.
Wichita, Kansas
July 11, 1939

R. C. "Charlie" Wilson
Beech Aircraft Corp.
Wichita, Kansas
July 12, 1939

N. L. "Si" Sifers
at Municipal Airport
Wichita, Kansas
July 12, 1939

C. C. "Chuck" Spencer
Braniff Airways
Wichita-Oklahoma City
July 12, 1939

T. W. "Ted" Gibson
Braniff Airways
Oklahoma City, Okla.
July 12, 1939

Peggy Stappenbeck
Braniff Airways
Oklahoma City, Okla.
July 12, 1939

Paul R. Braniff (QB)
Braniff Engineering Co.
Oklahoma City, Okla.
July 13, 1939

Marie A. Braniff
(Mrs. Paul R.)
Oklahoma City, Okla.
July 13, 1939

Burt E. Hull
Texas Pipe Line Co.
Oklahoma City-Dallas
July 13, 1939

E. "Ernie" Petteway (QB)
American Airlines, Inc.
Oklahoma City-Dallas
July 13, 1939

Ernie Petteway (left)
Burt E. Hull (r.)
Oklahoma City-Dallas
July 13, 1939

Candid snapshots from the famous collection of Kenneth

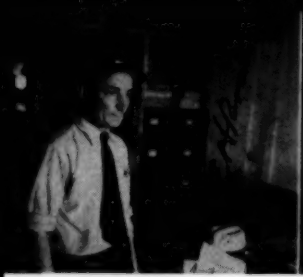
BOEDY'S ALBUM

May Bobeck
American Airlines
Oklahoma City-Dallas
July 13, 1939

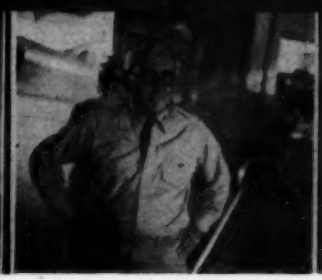
Homer C. Truax
American Airlines
Oklahoma City-Dallas
July 13, 1939

W. F. "Bill" Nicol
Braniff Airways
Dallas, Texas
July 14, 1939

Curtis F. Terrell
Braniff Airways
Dallas, Texas
July 14, 1939



E. H. "Brad" Bradley
Braniff Airways
Dallas, Texas
July 14, 1939



A. W. "Robby" Robins (QB)
U. S. Army Air Corps
at Dallas, Texas
July 14, 1939

H. A. "Spike" Myers
U. S. Army Air Corps
at Dallas, Texas
July 14, 1939

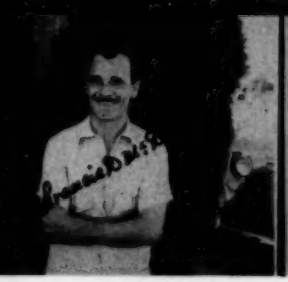
E. B. "Eddie" Lyon
U. S. Army Air Corps
at Dallas, Texas
July 14, 1939

B. K. "Bart" Yount
U. S. Army Air Corps
at Dallas, Texas
July 14, 1939

A. B. "Mac" McDaniel
U. S. Army Air Corps
at Dallas, Texas
July 14, 1939

Winston C. Castleberry
Booth-Henning, Inc.
Dallas, Texas
July 14, 1939

Ben Bransom (QB)
Hangar One
Love Field
July 14, 1939



Francis D. McDonald (QB)
Byrd-Frost Air Transport
Dallas, Texas
July 14, 1939

W. T. "Spike" Hefley
U. S. Army Air Corps
at Dallas, Texas
July 14, 1939

John R. Morgan (QB)
U. S. Army Air Corps
at Dallas, Texas
July 14, 1939

Arthur E. Tacey
Booth-Henning, Inc.
Dallas, Texas
July 14, 1939

Candid snapshots from the famous collection of Kenneth

South by West. If you go only to **Manila** you won't have seen the Philippine Islands. Manila is a big, brash, noisy confusion that comprises a large metropolis. It is the capital that combines some of the best but most of the worst of this four-year-old republic.

But go to the highly-cultivated agricultural southern islands where the people are wholesomely friendly, life is tranquil and the scenery good, and you'll carry away pleasant memories of one of the most interesting parts of the world.

The contrast between Manila and the rest of the Philippines is the difference between a booming jukebox with its strident tones and the soft soothing strains of dinner music in a carpeted dining room.

Take **Zamboanga**, for example. Here's a town with an exotic and intriguing name that challenges the globetrotter like Zanzibar and Mozambique. Its hundred thousand people spread out on the seacoast facing south on the southwestern tip of the big island of Mindanao. There is no through road to the major part of the big island but it has a deep harbor and is quite a busy little crossroads.

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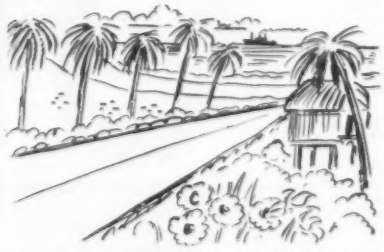
Peerless Palms. I've seen a lot of many wonderful sights while bouncing around the world, but I've never driven along more beautifully entrancing roads that those near Zamboanga. Those countless stately tall coconut palms, those picturesque thatched nipa huts on



stilts, and the profusion of flowers and the sandy beaches, all combine to make this an idyllic dream spot in the tropics, the kind of tropics you read about.

I'll never forget the visit to Zamboanga, but not just because of the scenery. The really big reason is because of the friendly people there. Aside from a pilot and his wife, my wife and I were the only Americans present for a tea and a reception in our honor in the front yard of **Antonio Bayot's** hotel in the eastern outskirts of town.

Our special Philippine Air Lines DC-3 had been met in mid-afternoon by **Mayor Jaldon** and **Mrs. Dolly Alano Laconico.** After a tour of the town and environs we reached our hotel just in time to get a cold shower and clean up for tea. Strings of lights had been hung around the hotel yard and in the center of the yard was a long table filled with silver tea services, plates, cups and saucers, and all sorts of cakes, pies and sandwiches. It was like an old-fashioned outdoor church social and I can assure you that the women of Zamboanga can turn out some mighty delicious cakes and other good things to eat.

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All Dressed Up. The sun had just disappeared beyond the palm trees when I put in my appearance in the best tropical suit I had but I felt pretty rumpled up on seeing a group of about fifty men and women dressed respectively in spotless freshly-ironed white

tropical suits and colorful Sunday dresses. I was introduced to each one and I began to realize that this was a major occasion arranged to meet, honor and listen to an American editor.

These were good people, intelligent, up on current world news, anxious to make a good impression, and anxious for me to take back to the United States the message that the Philippines were loyal friends of the U. S. and that they were trying hard to build a strong, independent democracy. They were so friendly that I must confess that I felt very small and humble. After all, I was just an aviation editor out seeing an airline and some scenery. But the people of Zamboanga not only wanted me to feel that they were highly honored that I should want to come there, but they were sure that I had the answer to all of the world's many problems.

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Good Folks. Darkness came rapidly as it does in the tropics, the lights went on, the frogs croaked in a nearby pond, the crickets chirped, the conversation was animated and the food awfully good. Peering through a fence bordering the hotel yard were a hundred or more children and adults gathered to peek at this important local festive occasion. I wanted to sit in the background and watch instead of being the focal point of attention.

Then the time came for me to say a few things. The Mayor gave an introduction that had my heart tugging—about this editor who had come across the Pacific from America to honor Zamboanga by his presence and how much they wanted him to go back to America with a good impression of the southern Philippines. What got me right where it hurts was the sincerity of the whole occasion and the great expectancy in what I was going to say.

There's no use trying to remember

what I said. I did my best, but I kept wanting to say, "look, good people, you're about the finest folks I have ever seen, but I'm only small fry and I ain't as good as you think I am and I don't know all the answers to the world's problems, I just came down this way to see something of the islands and see how an airline out here operates." Somehow I muddled through and then answered some pretty tough questions. That crowd was more intelligent and alert about human and world problems than any I can ever remember.

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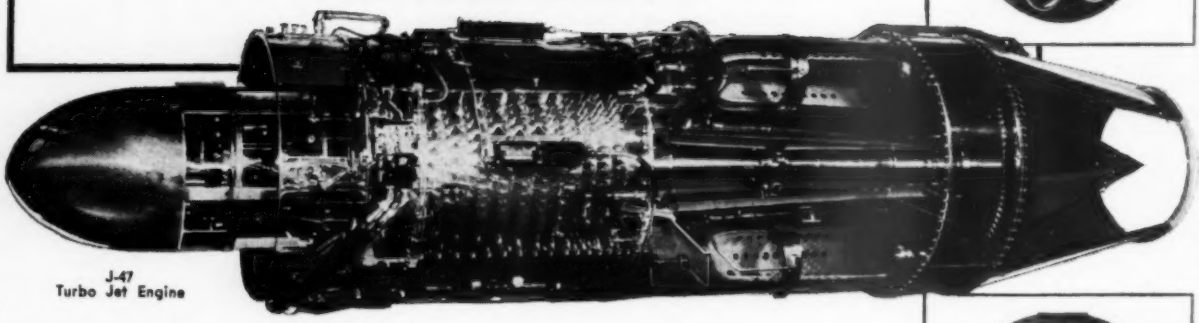
Mayor & Dolly. The group was quite representative. One was a doctor who had attended Baylor University in Texas. Another was **Hadje Data Taupan,** a high-born Mohammedan wearing his white robes, who had come from another island to assure me that the 2,000,000 Moslems in the Philippines have always been and always will be kindly disposed toward the U. S. and will never forget that America guaranteed freedom of worship when it took over from the Spaniards just before the turn of the century.

As for Mayor Jaldon, he's progressive and smart. He lets his political opposition and the Moslems participate in his local government. A leader in the local Lion's Club, he is civic-minded just as one finds in the U. S. During the Jap occupation he was a guerilla in the hills.

Then take Dolly Alano. A more charming and graceful personality one could hardly find anywhere. Her husband had been killed in Bataan. She is devoting the rest of her life to social work. It was she who had taken the initiative to organize the reception. Like the others she is fiercely patriotic, fiercely devoted to the Philippines—and friendly to America. Her father is a big lumber operator in the area.

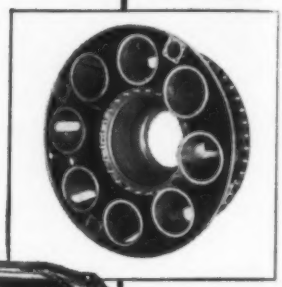
Nowhere else have I found so much spirit of the U. S. far away from our own country. The setting was different, but the civic clubs, the school contests, the city-betterment slogans, the outlook on the world, is very close to the U. S. Zamboanga has an exotic connotation. But those are awfully good fine folks who live there. I hope I go there again.

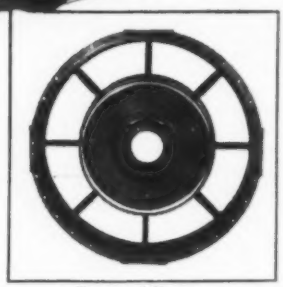
JET ENGINES
and
COMPONENTS
by
FAIRCHILD



J-47
Turbo Jet Engine

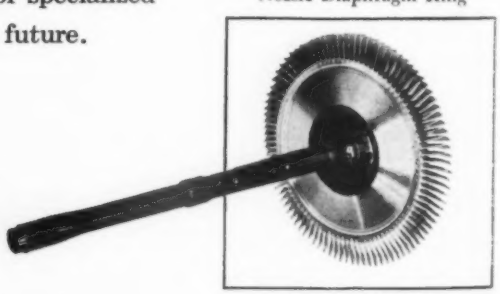
Rear Frame





Forward Frame

Nozzle Diaphragm Ring



Complete Turbine
Wheel Assembly

The Fairchild Engine Division is designing, and producing specialized turbine engines—some of them for unconventional applications—and is mass producing such vital components of General Electric's J-47 engine as the turbine wheel and shaft, nozzle diaphragm, and the forward and rear compressor frames—main supporting structures of the engine.

Geared to the exacting requirements of aircraft engine production, Fairchild is able to meet the expanding demands of the military establishments and take its place in the rearmament program; producing in volume urgently needed components and pressing forward the development of turbine and reciprocating engines for specialized application in the military equipment of the future.

ENGINE AND AIRPLANE CORPORATION
FAIRCHILD
Engine Division
FARMINGDALE, N. Y.

Other Divisions: Fairchild Aircraft Division, Hagerstown, Md. • Fairchild Guided Missiles Division, Al-Fin Division, and Stratos Division, Farmingdale, N. Y.

(*Continued from opposite page* 3)

MILITARY

Doolittle Appointed: Lt. Gen. **James Doolittle,** vice president of Shell Oil Co., has been appointed special part-time consultant to Gen. **Hoyt S. Vandenberg,** Air Force Chief of Staff, on matters pertaining to research and development of aircraft.

AIRLINES

Interchanges Filed: Three interchange agreements called for by CAB in its Southern Service to the West Case have been filed with the Board. National, Delta and American asked approval of through service between Miami, New Orleans, Dallas and the west coast; American and Delta asked similar service between New Orleans and Atlanta, on the one hand, and west coast cities on the other, while Braniff, Continental and American requested Houston, San Antonio and El Paso to the west coast. Since CAB has already found the interchanges to be in the public interest, they may be approved without further hearings.

SAS Orders 5 DC-6B's: Scandinavian Airlines System has placed order with Douglas Aircraft Co. for five more DC-6B's at cost of $7,400,000. SAS now has seven of the planes on order, with first two scheduled for delivery in early 1952.

Summer Excursion Fares: CAB has reached agreement with Eastern Air Lines and National Airlines on 1951 summer excursion fares. Applicable to and from Florida points, round-trip fares will be based on 150% of normal one-way fares, will apply to trips of 16 days maximum duration, and will be valid from May 15 through Sept. 30. As a result of the agreement, CAB will drop its investigation of the carrier's summer excursion tariffs.

REA Files Increase: A tariff providing a 20% increase in air express rates, effective Mar. 21, has been filed with CAB by Railway Express Agency. Purpose is to permit airlines to maintain present express revenues while meeting higher payments to REA as required by new airline-REA agreement.

$16 Million for Ads: U. S. airlines' 1951 advertising budgets will exceed $16,000,000, according to **M. F. Redfern,** vice president-traffic of Air Transport Association. Partial breakdown of the total shows that newspaper space will total more than $8,000,000, magazine advertising will be about $2,000,000, with radio and television accounting for a little less than $2,000,000.

EAL Record: Eastern Air Lines' revenue in February, a 28-day month, totaled $7,855,600 and surpassed that of any other month in the company's history, while traffic figures set new all-time high for second consecutive month. EAL carried 268,043 passengers, 45% over same 1950 month.

Rocky Nelson Dies: **H. O. (Rocky) Nelson,** 47, regional vice president of Frontier Airlines, died Mar. 7 in Tucson, Ariz. He had been suffering from a heart condition. Nelson had been president of Arizona Airways, which was combined with Challenger and Monarch to form Frontier.

CIVIL AVIATION

Jones Heads NAC: **C. S. (Casey) Jones,** president of the Academy of Aeronautics, has been elected president of the National Air Council. **E. R. Boots,** of U. S. Steel Corp., was named treasurer and a member of the board of managers. Newest members of NAC are National Association of State Aviation Officials, and National Flying Farmers.

Identification Card: CAA has proposed a regulation under which all certificated airmen will be required to carry positive identification data in the form of an identification card issued by CAA. Effective date would be Sept. 1, 1951. Card would contain airman's signature, picture and one fingerprint. A special form, ACA 2134, would be used to apply for the card. The form would require personal identification, citizenship, place and date of birth, and type certificate held.

CIVIL AERONAUTICS BOARD

Gurney Sworn In: **Chan Gurney,** former Senator from South Dakota, was sworn in Mar. 12 as a CAB member to serve out the unexpired term of **Harold A. Jones** which runs through Dec. 31, 1952. He was confirmed by the Senate on Mar. 9.

Applications and Petitions

• **Eastern Air Lines** wants CAB to reverse decision in Southern Service to West Case in which Board called for three interchanges and denied route applications of various lines including EAL. Sharply critical, EAL said Board has granted American Airlines a "complete monopoly of all air traffic" between south and west coast.

• **Trans World Airlines** opposes recent Board ruling which would permit approval without hearing of interchange applications requested by CAB. TWA said interested airline and civic parties have right to know what type of service is planned by interchange carriers and suggested opportunity be given for submission of comments on proposed interchange operations.

• **Braniff Airways** asked Board to consider its year-old application for route extension to New York simultaneously with Houston-New York interchange application of Chicago and Southern Air Lines and Trans World Airlines. Filed February, 1950, Braniff's application for New York service has not yet been acted on. C&S-TWA interchange proposal, filed September, 1950, has been set for prehearing conference on Mar. 19.

• **Trans-Texas Airways** applied for change in service pattern to permit omission of service to Galveston, Texas, on all flights in excess of one round-trip per day.

Actions

• **Trans-Alaskan Airlines,** Seattle, turned down on application for an individual exemption to operate as a large irregular carrier. Line did not operate in 1950 and, CAB said, has not established that there is a public need for the services contemplated in its application. An appeal may be filed within 30 days, however.

• **Standard Air Cargo,** San Diego, awarded a two-year authorization to continue operations as a large irregular. Carrier's operations, CAB said, have been scattered among a relatively large number of different pairs of points and have been irregular under the terms of Part 291 of the Economic Regulations.

• **Oxnard Sky Freight,** a large irregular, agreed voluntarily to surrender its letter of registration if CAB extended date for suspension of the letter. Board agreed and gave Oxnard through Apr. 20 to wind up its affairs. Action will terminate enforcement proceeding in which Board was considering revocation of the letter.

• **Strato-Freight, Inc.,** turned down on petition for reconsideration of Board order which denied issuance of an individual exemption for large irregular carrier operations. Board ordered the line out of business by Apr. 6.

• **Compania Dominicana de Aviacion, C. Por A.** granted a foreign air carrier permit authorizing transportation of persons, property, and mail between Miami and San Juan, on one hand, and Ciudad Trujillo, D. R., on the other. Carrier has been operating since 1944, providing domestic operations throughout the Dominican Republic.

• **Frontier Airlines** authorized to suspend service at Canon City, Colo., and Provo, Utah, until 60 days after decision in Frontier Renewal Proceeding. Board refused, however, to permit Frontier suspension at Colorado Springs and Greeley, Colo., Price, Utah, and Kemmerer, Wyo., because of possible adverse competitive effect.

• **Ozark Airlines** authorized to suspend service through Apr. 10, at Miami, Oklahoma, pending completion of airport construction. City is an intermediate point on Ozark's St. Louis-Tulsa route.

• **Pacific Alaska Air Express** turned down on appeal of Board order which denied an individual exemption for large irregular carrier operations. Line is ordered out of the air transportation business by Mar. 23.

Examiners Report

• **Compania Cubana de Aviacion, S. A.** recommended by Examiner J. Earl Cox for five-year foreign air carrier permit to operate a direct route between New York and Havana, Cuba. But Cox urged that award be made only if Pan American World Airways, owner of over 40% of the line's stock, disposes of all its holdings in Cubana in excess of a third of the company's outstanding stock. Cubana, Cox said, should operate the route only as a Cuban national instead of as a Pan Am affiliate. Other lines applying for the route are Aerovias "Q," S. A., and Expresso Aereo Inter-Americano, S. A.

FINANCIAL

Airlines

United Air Lines' 1950 net income totaled $6,429,723 against 1949 net of $2,249,405. Operating revenues were $104,094,990 (first time they have ever exceeded $100,000,000) while operating expenses totaled $91,465,565. Operating expenses per revenue ton-mile were 45.6c against 50.3c in 1949. UAL revealed that in order to finance purchase of 30 Convair 340's and 20 DC-6B's it will sell $10,000,000 worth of 15 year 3½% debentures, and that $16,000,000 more will be available through standby credit arranged with group of 34 banks. UAL's total federal, state and local government taxes in 1950 were $8,398,000, or $561,000 more than the $7,837,000 mail pay received.

Slick Airways Inc. had net profit of $506,608 after taxes in 1950, the company's first full year of profitable operation. Profits for January and February, 1951, are estimated at $250,000 before taxes.

Mid-Continent Airlines reported January net profit of $22,120 after taxes against $5,912 profit in same month last year.

Manufacturing

Fairchild Engine & Airplane Corp. estimates unaudited 1950 net income at about 50% higher than the $1,575,328 net in 1949.

Bendix Aviation Corp. reported $2,578,458 net income for quarter ended Dec. 31, 1950, against $3,798,979 net in same 1949 quarter.

Lockheed Aircraft Corp.'s 1950 net earnings after taxes totaled $7,209,934 against $5,490,670 in 1949. Sales reached $173,330,839, an increase of 47.3% over 1949's $117,666,803. Backlog at end of 1950 was $447,418,000 but has since risen to over $625,000,000.

LABOR

ALPA Labor Dispute: Headquarters employes of the Air Line Pilots Association, who are engaged in a dispute with ALPA President **David L. Behncke** over wages and working conditions, want "to attain working conditions that will enable us to spend a reasonable amount of time with our families and friends and to lead normal and regulated lives," according to **Maurice H. Schy**, president of the Air Line Pilots Association Professional and Administrative Employes. The dispute cropped up during New York hearings of Presidential Emergency Board on new American Airlines' pilot contract, and ALPA employes' union has asked National Labor Relations Board for a representation election.

Asserting that the headquarters staff has worked "from 14-16 hours a day, 6 or 7 days a week, without any overtime payment," Schy said his group had talked the matter over with an informally-appointed pilot committee, and had offered to leave question of salaries to the "entire discretion" of Capt. **A. F. Foster** (TWA), ALPA's regional vice president. He added that pilot committee told him Behncke had promised to authorize **C. N. Sayen,** ALPA executive vice president, to negotiate an employment agreement with his group. However, when they met with Sayen "he informed us that Mr. Behncke had departed for Chicago, leaving only two instructions: (1) that no negotiations were to be conducted with the staff members, and (2) that our credit at the hotel was to be terminated at 3 in the afternoon."

United Aircraft Increase: A 5c per hr. wage increase to some 22,600 hourly paid employes in all divisions, based on an increase in the cost-of-living index, has been granted by United Aircraft Corp. It brings to 8c the total cost-of-living raises under contracts with International Association of Machinists and United Auto Workers-CIO.

A. V. Roe Raise: Wages of about 3,000 A. V. Roe Canada Ltd. plant employes have been raised in a range from 5c to 11c per hr., and a cost-of-living bonus has been introduced based on 1c bonus for every 1.3 rise over base of Feb. 1, 1951. Negotiations were with International Association of Machinists.

ALPA-Cal Central: California Central Airlines, intrastate line flying San Diego-Burbank-San Francisco, is negotiating a contract with Air Line Pilots Association, which it has recognized as bargaining agent for the pilots.

IN GENERAL

Added to Critical List: Department of Labor has added two more aviation jobs to its critical list of occupations: aircraft operations specialist, and aircraft assembly mechanic. Secretary of Labor Tobin also confirmed previous reports that airplane pilots operating multi-engined commercial planes have been put on the list. Discussing the latter, he said that about 35% of the men in this occupation are in the reserves. "There is a definite shortage in the occupation." He added that a very high proportion of airways operations specialists are reservists.

AROUND THE WORLD

U. S.-French Routes: Current U. S.-French civil aviation discussions in Paris include consideration of French request for three new routes into U. S., and U. S. request for three more European lines, including London-Paris. French are asking route from Martinique and Guadeloupe to New York, a traffic stop at Houston on Paris-New York-Mexico City route, and stop at Montreal on Paris-Canada-New York. U. S. wants Nice-Rome and Paris-Frankfurt, in addition to heavily-traveled London-Paris line. Reports from Paris indicate tentative agreement has been reached on questions of capacity and Fifth Freedom traffic which were raised by French following entry of Pan American World Airways into French capital.

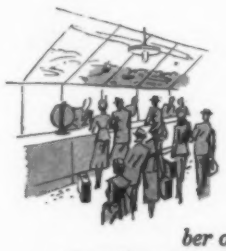
OFF THE PRESS

Air Traffic Control and the National Security, the report of Air Coordinating Committee on how common system of navigation and traffic control should be implemented. Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. 150 pages. 65c.

Surely your air line can use this added revenue!

HERTZ... and only HERTZ can offer all the advantages of the

PLANE-AUTO TRAVEL PLAN



Driving their own cars, traveling between cities, Americans covered 570 billion passenger miles during 1949! A large number of these drove long distances not because they wished to, but simply because they wanted and needed cars when they reached their destinations.

In a short time thousands of car owners have been diverted to plane travel from long distance driving by the Plane-Auto Travel Plan . . . which is a plan of co-operation by the Hertz Driv-Ur-Self System and air lines. And no wonder, when you realize that now travelers can reserve a new car from Hertz before they leave home in over 450 cities throughout the United States, Hawaii, Cuba, Great Britain and Canada, and be sure that the car will meet them at the airport, if desired, filled with gas and oil, properly insured, all ready to go! *And at surprising low rates.*

Hertz . . . and *only Hertz* . . . tells the traveling public the advantages of the Plane-Auto Travel Plan thru national advertising in such leading magazines as the Saturday Evening Post, Life, Look, Holiday, Time, Newsweek, and U. S. News & World Report.

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CONTINENTAL Reports:

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...plus greater engine reliability, with the help of TEXACO

CONTINENTAL AIR LINES' BIRTHDAY CAKE this year will be bright with 17 candles. Bright, too, is Continental's unsullied safety record of close to 500 million passenger miles. Today, the Continental fleet of five Convair-Liners and ten DC-3 planes serves 32 cities in Colorado, Kansas, Oklahoma, Texas, New Mexico and Missouri. Its safe, on-schedule flights are the result of unremitting maintenance vigilance and an uncompromising insistence on quality. *Engines of all Continental Air Line ships are lubricated exclusively with Texaco Aircraft Engine Oil.*

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American Aviation

THE AIR INDUSTRY'S FIRST NEWS MAGAZINE

NEWS ISSUE

Entered as Second Class Matter

March 26, 1951

Vol. 14 No. 36

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a LOOK at the WEEK

Insiders say decision has definitely been made to raise National Production Authority's aircraft section to division status, and possibly higher. Problem is to find the right man to head it.

•

Proposal to militarize CAA in event of war isn't dead. Budget Bureau has asked interested agencies to comment again on proposed bill.

•

Final overall report, to cover individual reports of civil aviation mobilization task groups, is now being written. Hope is to have it okayed by government agencies and President by Apr. 15.

•

Present proposal is that airline planes taken by military on M-Day would be on contract basis. Planes would be under military's operational control, but airline pilots flying them would remain civilians. Plan will probably be approved, although some military officers still insist planes should be requisitioned and airline personnel put in uniform.

•

One of first effects of airline mobilization will be immediate modification of a number of four-engined planes for long over-water flights, thus permitting overnight transition to military use. Military will buy some of necessary modification equipment, airlines will be reimbursed for rest through mail pay.

•

CAA will make all-out effort in coming months to complete installation and commissioning of omni-directional radio ranges. Increasing military use of the new facilities plus greater acceptance by airlines has made program one with top priority.

•

Indications are that Controlled Materials Plan, slated for July, will cover only half of distribution of steel, copper and aluminum. NPA is said to feel that complete control is unnecessary during partial mobilization.

•

Air Force has indicated that future training of foreign nationals at civilian-operated AF basic flight schools is a possibility.

•

Look for additional informal talks with Mexico on a bilateral civil aviation agreement. CAB Chairman Del Rentzel paved the way during recent visit to Mexico. Another formal conference isn't planned yet, however.

Nyrop Named CAB Chairman, Horne Heads CAA

The expected nomination of Delo[illegible] Chairman, to be Undersecretary of Com[illegible] portation was accompanied on Mar. 19 by two other Presidential nominations:

• **Donald W. Nyrop,** CAA Administrator, to be CAB Chairman.

• **Charles F. Horne,** director of CAA's Office of Federal Airways, to be CAA Administrator.

Rentzel will succeed Maj. Gen. Philip B. Fleming, who becomes ambassador to Costa Rica and will have control over civil aviation's war mobilization plans as well as considerable power over other forms of transportation (News Issue, Mar. 12).

Significance of the Nyrop move is that the Board is expected to retain its independence in route certifications and rate making matters. There had been reports that CAB might be reorganized along the lines of the Maritime Board and be responsible to the Secretary of Commerce.

Horne, a Navy captain, was loaned to CAA by the Navy in 1949 to serve for six months as assistant to Rentzel, who was then Administrator. He has been with CAA ever since, serving as federal airways director. A Navy officer for 25 years, his last Navy assignment was as Deputy Chief of Naval Communications. He is expected to resign his commission to accept the CAA post.

Helicopter Awards to Sikorsky, McDonnell

Contracts for development and construction of two experimental transport-type helicopters for the Marine Corps have been awarded to Sikorsky Aircraft Division of United Aircraft Corp. and McDonnell Aircraft Corp.

There were 23 entries in the design competition. Number of helicopters to be constructed was not disclosed. Details that were released included:

McDonnell: Helicopter will be a single, three-bladed jet-propelled main rotor type, with rotor foldable for ease of storage.

Sikorsky: Will have single five-bladed main rotor and an anti-torque tail rotor typical of previous Sikorsky designs. Rotors will also be foldable.

Both helicopters, designed to meet Marine Corps requirements for operation from all types of naval vessels, will carry pilot, co-pilot, passengers and litters or cargo.

Willys Gets Big J-47 Components Order

A contract in excess of $63,000,000 for production of major components of the General Electric J-47 jet engine has been awarded to Willys-Overland Motors Inc., marking the auto maker's entrance into the aviation picture.

The company has acquired the former Chevrolet plant at Anderson, Ind., and has received a letter of intent covering a $7,000,000 tooling expenditure. Officials did not disclose exact amount of the contract except to state that it was larger than Willys' other recent defense order, $63,000,000 for Army jeeps.

Airlines Oppose CAB Legislative Plan

A Civil Aeronautics Board request to Congress for legislation granting it additional powers has aroused strong opposition among the scheduled airlines.

CIRCULATION COPY 3

The proposal that has caused most criticism is one which would give CAB power to limit frequency of service and curtail types of equipment used, particularly in international service, but which airlines maintain could also apply domestically.

Also requested was power to force an airline to start service to wholly new points so as to "afford flexibility in the handling of defense requirements and to establish a sound route pattern."

One airline spokesman asserted that the program "goes further than any legislation ever proposed." CAB, he added, would take over functions which properly belong to management.

When actual bills are readied for introduction, the airlines will carry their fight to Congress. The proposals were made in executive session to House and Senate Interstate and Foreign Commerce Committees by CAB Chairman Delos W. Rentzel before his nomination as Undersecretary of Commerce for Transportation.

Some of the other proposals, most of which will also be opposed, are:

Foreign Interchange: Power to compel interchange of equipment in foreign air transportation.

International Rates: Jurisdiction by CAB over rates of U. S. international carriers to facilitate negotiation of bilateral agreements and to prevent wasteful competitive practices between two or more U. S. airlines serving same foreign point.

Stock Control: CAB control over security (capital stock) structure of airlines.

Rate Cases: Legislation to put burden of proof on airlines in rate cases.

Defense Exemption: Power to exempt airlines from economic provisions of Civil Aeronautics Act if such exemption is in interest of national defense.

MANUFACTURERS

TEMCO to Build TF-51: A new two-seat version of the World War II North American F-51 Mustang, designated TF-51, is to be built by Texas Engineering and Manufacturing Co. for the Air Force, which will use it as a single-engine advanced trainer. Plane will be fully-engineered conversion with a full-size second cockpit, complete with dual controls and full instrumentation. Power plant will be 1,665-hp Packard Merlin, same as F-51 and top speed will be between 400 and 500 mph. Work on the prototype flying model is already underway and preliminary production has started. Size of the order was not disclosed, but was said to be "substantial."

C-119 Order: A "substantial" increase in production orders for the Air Force C-119 Packet has been received by Fairchild Aircraft Division. Slightly less than half of the new order is for the Navy.

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Lockheed Analyzes Income: Lockheed Aircraft Corp., in the five postwar years, received 23c of every income dollar from Constellation commercial sales, which was as big a volume as jet plane sales. Division of income dollar was: jet planes, 23c; Constellations, 26c (including 2c for Air Force and 1c for Navy versions of Connie); P2V's, 10c; spare parts and ground handling equipment, 16c; modifications, repair, overhaul and maintenance, 10c; Lockheed Air Terminal, 3c; experimental work, 1c; miscellaneous, 2c. Jet plane income was divided 17c from F-80's, 3c from T-33's and 3c from F-94's.

More NPA Controls: All shipments of columbium and tantalum, two metals in widespread aircraft and engine use, must be authorized by National Production Authority starting Apr. 1 (NPA Order M-49). NPA also ordered 20% reduction in amount of columbium and tantalum which may be used in production of stainless steel.

Tax Write-Offs: Five-year tax write-offs on $110.1 million in expenditures for expansion of defense production were granted to companies producing aviation products in six weeks ended Mar. 7. Defense Production Administration hasn't been granting full amount requested in all cases. Average for all industry is 74%.

People: **E. C. Sulzman**, former sales manager for Wright Aeronautical Corp., has been named vice president-sales of Jack & Heintz Precision Industries, Inc. . . . **Armand J. Thieblot** has resigned as Fairchild Aircraft Division's chief engineer . . . **G. D. McVicker**, who has been Consolidated Vultee's project engineer on Convair 240, has been appointed to newly-created post of project engineer for the 340 . . . **W. D. Holman**, who had been with Consolidated Vultee for 16 years, has joined Hiller Helicopters as chief of materials.

PLANES & EQUIPMENT

Allison J-35-A-23: Allison Division of General Motors Corp. has unveiled its J-35-A-23 jet engine which it states is the most powerful to reach production stage and is also the production engine with the lowest specific fuel consumption. The engine will power the Boeing B-47C bomber. Exact thrust rating was not disclosed, but statements that the B-47C's four engines will turn out a "great deal more power" than six engines of earlier B-47's indicated that basic dry thrust rating is well over 8,000 pounds, while afterburning will bring it to the 10,000 pound neighborhood.

B-47 Flight Refueling: A B-47 jet bomber has been successfully refueled in flight by Boeing Airplane Co., which has been conducting tests under Air Force contract. Repeated contacts were made by a Boeing KC-97A Stratofreighter tanker.

Canberra Designation: The Air Force version of the English Electric B2 Canberra jet bomber to be produced by The Glenn L. Martin Co. will be designated B-57A.

MILITARY

AF to Take Wichita Field: Air Force has completed arrangements to take over Wichita Municipal Airport for exclusive use in training Boeing B-47 jet bomber crews, and plans are proceeding for construction of a new municipal airport. AF will buy the present field at a negotiated price and the funds will be used to build the new airport. Scheduled airlines and certificated irregular carriers will use Wichita Municipal until new facility is ready. However, all planes without two-way radio will be excluded effective Apr. 1, private and executive planes will be barred July 1, and fixed base operators will move out Sept. 1.

Muroc Expansion: A $120,000,000 expansion program is to be carried out by Air Force at Edwards Air Force Base, Muroc, Calif., and 90% of the experimental

work now carried on at Wright-Patterson AFB, Dayton, O., will be transferred to the 183,000-acre site. Expansion program is not the result of the national emergency but has been under consideration for six years. The base will be limited in its scope to testing new aircraft.

Hawthorne Selected: Hawthorne Flying Service, Charleston, S. C., has been selected by Air Force as operator of a basic pilot training school to be opened at Spence Field, Moultrie, Ga. First class of 134 cadets is scheduled to start training May 17. It was also learned that AF will open bids for about 10 more civilian-operated basic flight schools in the coming fiscal year. Five contracts have already been announced for bids, which would put AF civil-operated training potential at 15 basic schools by July, 1952.

Named for Promotion: Five Air Force major generals have been nominated for promotion to lieutenant general: **Laurence S. Kuter,** commander of Military Air Transport Service; **Earle C. Partidge,** commander of 5th Air Force, the combat arm of Far East Air Forces; **Otto P. Weyland,** deputy commanding general FEAF; **Robert W. Harper,** commander of Air Training Command, and **Richard E. Nugent,** deputy chief of staff, personnel, Headquarters, USAF.

Large AF Contracts: Recent large Air Force negotiated contracts were topped by orders of $10,000,000 and $9,500,000 to **Bendix Aviation Corp.** and **Gilfillan Brothers,** respectively, for radar equipment. Other large awards: **Allison Division of General Motors Corp.,** Indianapolis, $5,549,663, engine spare parts; **Bendix Aviation Corp.,** Teterboro, N. J., $3,600,000, automatic pilot components; **Raytheon Mfg. Co.,** Waltham, Mass., $1,116,808, magnetrons; **Cosa Corp.,** New York, $1,579,600, gear grinding machines.

AIRLINES

Delta Buys Convairs: Delta Air Lines has placed order with Consolidated Vultee Aircraft Corp. for 10 Convair 340's at cost of $6,000,000 and has taken option on five more.

RFC Loan for Southern: Civil Aeronautics Board approved $370,000 RFC loan for Southern Airways and certified that, on basis of present and prospective earnings, company may be expected to meet fixed charges without reduction through judicial reorganization. Loan is subject to immediate participation of Merchants National Bank, Mobile, Ala., to the extent of $55,500. Meanwhile, Southern has announced that on Apr. 1 it will put two additional DC-3's into service, bringing its fleet to 10 planes.

Opposes Tour Fares: Tour basing fares of Pan American World Airways, Panagra and Braniff are unjustly discriminatory, are in violation of the Civil Aeronautics Act, and should be denied, a CAB examiner has recommended to the Board, which ordered an investigation last year. Fares, which apply during summer season and may be used only in connection with package tours, are generally for round-trip travel and are based on 150% of normal one-way tariff.

Land Withdraws Resignation: **Emory S. Land** has withdrawn his resignation as president of Air Transport Association, at the request of the directors, following decision of **Robert Ramspeck,** executive vice president, to accept chairmanship of Civil Service Commission. Land had asked to be relieved Dec. 31, 1951. Ramspeck has been granted leave of absence from ATA until June 30, 1952.

C&S Safety Record: Chicago & Southern Air Lines on Mar. 14 completed its one billionth passenger-mile without injury or death to passengers or crew members. Record extends over 15 years of operation.

Airlift Planes: Northwest Airlines has asked military consent to withdrawal of three DC-4's from Pacific airlift to handle flights formerly operated with Martin 202's before their grounding (News Section, Mar. 19). Transocean Air Lines has offered to add three DC-4's to the airlift if the request is approved.

Airlines' Alien Problem: U. S. international airlines are unjustly penalized for carrying inadmissible aliens, and present customs and immigration laws should be revised and modernized, **S. G. Tipton,** general counsel of Air Transport Association, told a joint Congressional committee. If an alien is found to be inadmissible, airline is penalized despite fact that such alien has been screened by U. S. government employes and has admission documents, he said, pointing out that airline can be fined $1,000, must pay any hospital expenses and custody expenses, must refund passage money and carry alien back free.

Halberg, Dennis Elected: **Stanley O. Halberg,** general traffic and sales manager of Continental Air Lines, has been elected vice president-sales of the company, and **Lynn H. Dennis,** director of flight service, was named vice president-flight service.

R. H. Purcell Dies: **Robert H. Purcell,** Western Air Lines' controller and assistant treasurer, died Mar. 10 of lukemia in Santa Monica, Calif. He was controller of Western Air Lines for several years before joining WAL in 1947.

People: **W. H. Miller,** 22-year veteran with American Airlines, has been named eastern region operations director of the company, succeeding **James G. Flynn, Jr.,** who is resigning Mar. 31 to join Collins Radio Co., Cedar Rapids, Iowa. Flynn had also been with AA 22 years. Miller has been serving as system operations manager . . . **Joseph D. Ryle,** former European public relations director for American Overseas Airlines, has been named director of public relations of American Airlines.

CIVIL AERONAUTICS BOARD

NAL Dismemberment Off: CAB's two-year-old controversial proposal to dismember National Airlines has been officially called off because of the improved financial condition of the airline. At the same time, CAB started important new proceedings to (1) determine whether Pan American World Airways and National should be ordered to perform compulsory interchange services between New York and Balboa, C. Z., with aircraft now operated by Panagra between Balboa and Miami, and (2) determine whether Eastern Air Lines' route 6 should be extended from Miami to Havana or Braniff's Latin American route extended from Havana to Miami. In event of either such extension, CAB will determine whether EAL and Braniff should provide interchange service between New York and Balboa. CAB also consolidated with the above proceedings the PAA-EAL interchange application for service between New York and Latin America.

Actions

• **Chicago-Washington, D. C., Service Investigation** will not be called off by CAB, despite pleas of United and TWA for dismissal. Started in February, 1949, case involves possible elimination of Chicago-Washington routes of United, TWA, American, or Capital, and establishment of new interchange between Capital and United between Washington, Chicago, and west coast. Dismissal requests, CAB said, did not advance sufficient matters warranting action sought.

• **Flying Tiger Line** authorized to carry personnel accompanying shipments of any agency of the U. S. Government. An all-cargo line, carrier is normally prohibited from transporting persons.

• **United Air Lines'** certificate for Route No. 1 amended to include Redmond, Ore., as a co-intermediate point with

Bend, Ore. Proximity of Roberts Field to both cities led to dual designation.

• **Reeve Airways**, certificated Alaskan carrier, granted six months exemption to engage in unlimited transportation of persons and property within the Territory of Alaska, pursuant to military contracts.

• **Frontier Airlines** granted continued authority to omit night stops at Vernal, Utah, on flights operated between Rock Springs, Wyo., and Salt Lake City. Frontier must serve the point on daylight flights, however.

• **Monarch Air Service**, Chicago, and Coastal Air Lines, New York, turned down on applications for individual exemptions to continue operations as large irregular carriers. Monarch was alleged to have operated "route-type" services between Chicago and Miami; Coastal between New York and Miami. Both lines may appeal within 30 days.

• **Trans World Airlines** request for an exemption to carry passengers, property and mail between the Azores and U. S. trans-Atlantic terminals, denied by CAB because it might have an adverse effect on Pan American World Airways which, under its certificate, operates three weekly flights between the points.

Examiners' Reports

• **Frontier Airlines'** certificate for local service operations should be renewed until Mar. 31. 1953, according to recommendation of CAB Examiner Herbert K. Bryan. As part of strengthening Frontier's routes, Bryan also proposed that United Air Lines be suspended at Rock Springs, Wyoming for a similar period and that "uneconomic" points be dropped from the local service line's certificate.

Applications and Petitions

• **Pan American-Grace Airways** applied for exemption to serve Bogota, Colombia, as an intermediate point on its South American route. Authorization is sought pending final decision on a certificate application to serve Bogota.

• **Petroleum Bell-Helicopter Services**, Lafayette, La., applied for certificate to conduct non-scheduled helicopter operations within a 75-mile radius of New Orleans. Operating contract helicopter services since February, 1950, company asked for a temporary or permanent certificate to carry passengers, property and mail.

• **San Francisco Airways, Inc.**, applied for authority to conduct helicopter operations in the general area of San Francisco and Oakland. Company asked for a permanent or temporary certificate to carry passengers, property, and mail or one for property and mail services only.

CAB Calendar

Mar. 27—Oral argument before the Board in United Air Lines Route 1 Amendment Case. Washington, D. C. (Docket 4193).

Apr. 10—Oral argument before the Board in Transcontinental Coach Type Service Case. Washington, D. C. (Docket 3397 et al.).

CIVIL AVIATION

Detroit Airport Plan Fails: Plans for a new Detroit international airport on the Canadian side of the Detroit River have failed, with the U. S. and Canada unable to agree on a site. The city now has three alternatives: keep Willow Run as its commercial terminal, switch to Detroit-Wayne Major Airport, or build a new closer-in field.

CAA to Sell 2 C-54's: Civil Aeronautics Administration has asked bids on two C-54's which it is releasing because of increased need for such planes in the national emergency. One, a C-54A, is in fair condition although not flyable without repairs. The other, a C-54B, is in poor condition, with components missing because they have been used to maintain other planes. The planes, available for inspection at Oklahoma City, are being sold subject to two-year restriction against export. Details (Invitation 5567) are available from Office of General Services, CAA, Washington 25, D. C.

New ACC Panel: Air Coordinating Committee has appointed a panel of "private citizens" to advise it on aviation policy matters. The panel, which will hold its first meeting in Washington on Mar. 28, includes presidents of large and small airlines and manufacturing companies. They have been asked to serve as private citizens rather than as representatives of companies.

FINANCIAL

Airlines

Braniff Airways reported record net profit for 1950 of $1,228,000, comprising a $1,336,000 profit on domestic routes and loss of $108,300 on international routes. This compares with $446,000 domestic profit and a $224,000 international loss in 1949. System operating revenues in 1950 were $21,366,457 while operating expenses were a little over $19,000,000.

Western Air Lines' 1950 net income was $787,904 after taxes against 1949 net of $432,053. Operating revenues increased 23.5% to $14,246,494 and expenses were up 19.4% to $12,610,733.

Continental Air Lines reported 1950 net income of $191,246.38 against 1949 profit of $35,916.02. Year's operating revenues were $6,221,792 or 8.75% over 1949, while expenses increased 4.98% to $5,837,885.

Capital Airlines, which on Mar. 12 called for redemption its 4% Series B convertible debentures, announced that 99.3% or $2,709,500 worth of the debentures were surrendered for conversion into 243,858 shares of common stock, having market value of $4,267,462. As a result of this action, Capital's debenture debt has been reduced to $3,157,500.

California Eastern Airways, in a move to obtain more working capital, has offered stockholders right to buy 11 new shares of capital stock for each 100 shares held, at price of $1.75 a share. Offer, which expires Mar. 28, was extended to stockholders of record Mar. 16.

Manufacturing

Aero Supply Manufacturing Co. reported net loss of $113,076 on $2,005,720 sales in 1950 against $6,518 loss on $2,131,436 in 1949.

Curtiss-Wright Corp. reported 1950 net income of $7,278,564 on $135,662,863 sales compared with 1949 net of $2,750,361 on $128,578,227. Backlog at end of 1950 was $300,400,000 against $132,700,000 a year earlier.

Dividends

Texas Engineering and Manufacturing Co. voted regular quarterly dividend of 5c per share payable Mar. 31 to stockholders of record Mar. 23.

Eastern Air Lines declared regular semi-annual dividend of 25c per share payable Apr. 13 to stockholders of record Mar. 29.

LABOR

Convair Raise: Ft. Worth Division of Consolidated Vultee Aircraft Corp. has received Wage Stabilization Board approval for 6% hourly pay increase for more than 18,000 members of International Association of Machinists. Employes not represented by IAM received same increase last October.

AROUND THE WORLD

1950 World Traffic: International Civil Aviation Organization announced that the world's international and domestic scheduled airlines, not including Russia and China, carried 30.3 million passengers in 1950, and performed 16.4 billion passenger-miles. Passengers carried increased seven times over 1937, while passenger-miles were 18 times over that year, ICAO said.

COMING UP

April 4-6—CAA Airports Advisory Committee, du Pont Hotel, Wilmington, Del.

April 16-18—SAE aeronautic meeting and aircraft engineering display, Hotel Statler, N. Y.

April 19-21—Airport Operators Council annual meeting, Hotel Peabody, Memphis.

April 23-25—American Association of Airport Executives annual meeting, Minneapolis.

April 24-26—Air Transport Association annual engineering and maintenance conference, Drake Hotel, Chicago.

International

March 27—Air Navigation Commission, Operations Div., International Civil Aviation Organization, Montreal.